RISK ASSESSMENT REPORT

Report reference No..... :	MD-TCF-260128-82015
Date of issue..... :	Feburary 06, 2026
Manufacturer..... :	Enerpat Jiangsu Environmental protection Industry Co., LTD
Address..... :	No. 2 Xintai Road, Changqing Town, Rugao City, Nantong City, Jiangsu Province
Reviewed according to..... :	MACHINERY DIRECTIVE (2006/42/EC), EN ISO 12100:2010
Review procedure..... :	GTS
Evaluation Location(s)..... :	No. 2 Xintai Road, Changqing Town, Rugao City, Nantong City, Jiangsu Province
Product Name:..... :	Wood shaving machine
Trademark..... :	/
Model Number:..... :	EWS-7.5, EWS-11, EWS-15, EWS-18.5, EWS-22, EWS-30, EWS-37, EWS-44, EWS-45, EWS-60, EWS-66, EWS-74, EWS-75, EWS-88, EWS-110, EWS-111, EWS-132, EWS-148, EWS-185
Main Number:..... :	EWS-30
Energy sources..... :	Electricity
Energy source ratings:..... :	AC380V, 50Hz

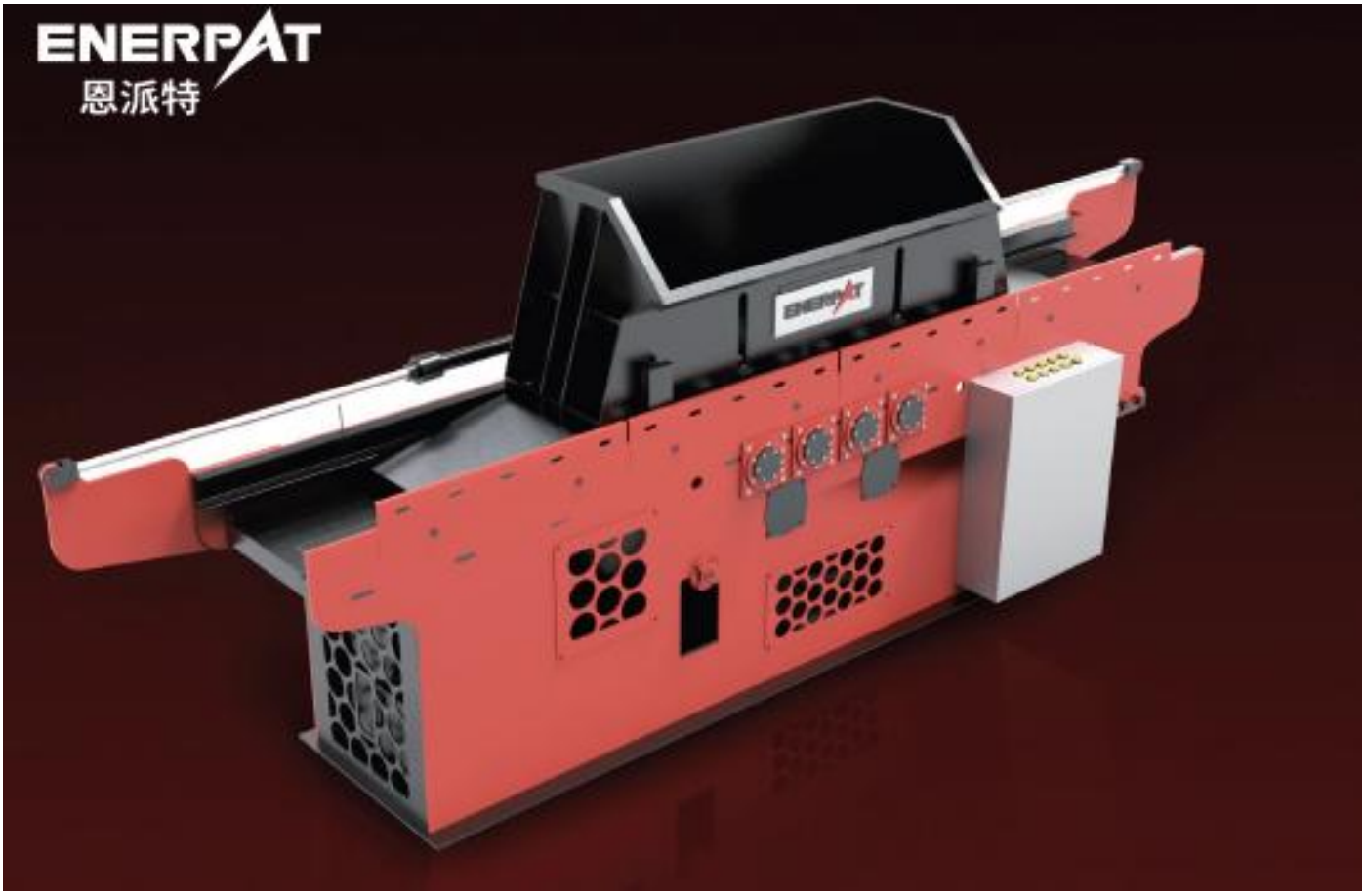
Performed by	Signature	Date
Stephen Zhang	Stephen	Feburary 09, 2026
Reviewed by	**Signature**	**Date**
Kosco Vent	Kosco	Feburary 09, 2026

GLOBAL TESTING SERVICES CO., LTD CERTIFICATION

Change History

Issue	Date	Reason for change
1.0	Feburary 06, 2026	First edition

1.Device Photo

Device Photo


2.Introduction

After the first assessment, some measures to eliminate the risks are given for the modification of machine or of relative documents with taking into account the explicit C-type EN standard (see EN ISO 19085-1) or related B-type standard.

While taking appropriate provisions for the existing risks, the procedures and principles to eliminate the risk are followed:

− First step: consider the possibility of eliminating risk at design stage.

− Second step: if impossible, protect the dangerous zone with appropriate design of safety guard or safety device.

− Third step: if above impossible, give warning signs to draw attention of operators about the residual risks.

In addition, the check list drawn from the explicit C-type EN standards (see EN ISO 19085-1), which are found suitable for or near the characteristic of this machine, are used to help developing the provisions for the elimination of the risks.

Finally the risk assessment was carried out again to ensure this machine and its relative documents are totally compliance with the Machinery Directive 2006/42/EC.

3. RISK ASSESSMENT METHODOLOGY

The risk assessment is based on the method recommended in EN ISO 12100:2010, in which the 4 factors S-F-O-A are used to evaluate the level of risk. The meanings of those are described in the following:

(1) S: Severity of harm

S1: slight injury (normally reversible), for example, scratches, laceration, bruising, light wound (requiring first aid).

S2: serious injury (normally irreversible, including fatality), for example, broken or torn-out crushed limbs, fractures, serious injuries requiring stitches, major musculoskeletal troubles (MST), fatalities.

(2) F: Frequency and/or duration of exposure to hazard

F1: twice or less per work shift or less than 15 min cumulated exposure per work shift.

F2: more than twice or more than 15 min cumulated exposure per work shift.

(3) O: Possibilities of occurrence of the hazardous event

O1: mature technology, proven and recognized in safety application; robustness.

O2: technical failure observed in the two last years:

—inappropriate human action by a well-trained person aware of the risks and having more than six months of experience on a station.

O3: technical failure regularly observed (every six months or less):

— inappropriate human action by an untrained person having less than six months of experience at a workstation;

— similar accidents observed in the plant in the preceding ten years.

(4) A: Possibility of avoidance or reduction of harm

A1: possible under some conditions:

— if parts move at a speed less than 0.25 m/s and the exposed worker is familiar with the risk and with the indications of a hazardous situation or impending hazardous event;

— depending on particular conditions (temperature, noise, ergonomics, etc.)

A2: impossible

The decision for the level of risk could be made according to Figure 1 or Figure 2.

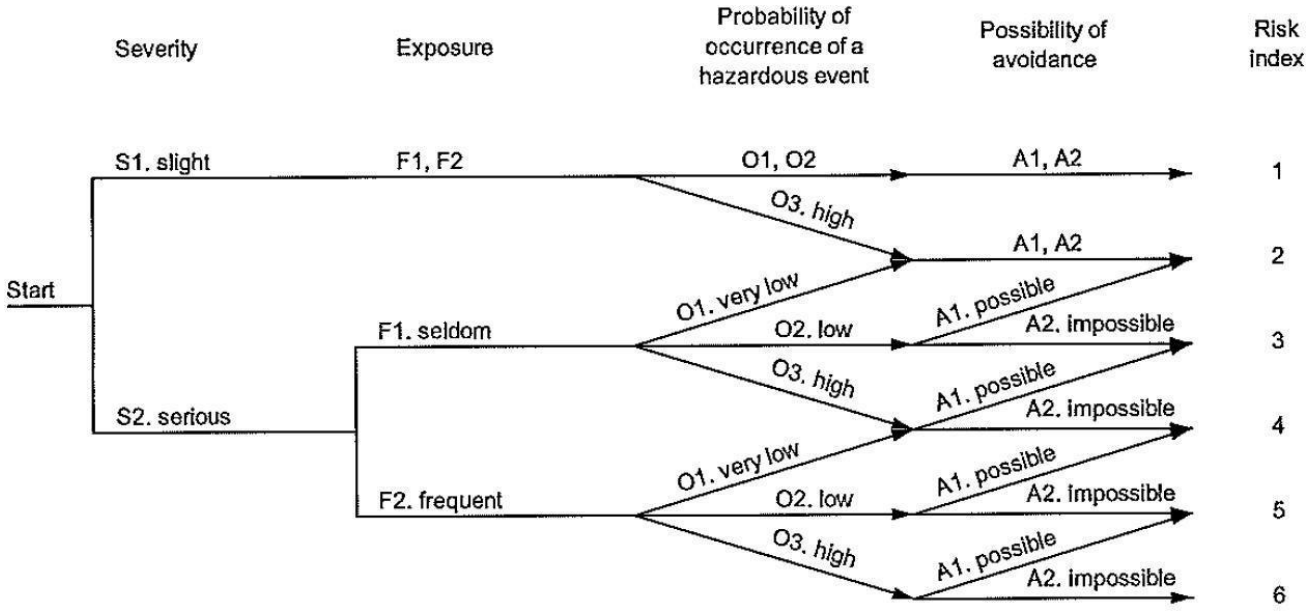


Figure 1—Risk graph for risk estimation

		Risk index calculation					
		O1		O2		O3	
		A1	A2	A1	A2	A1	A2
S1	F1	1				2	
	F2						
S2	F1	2			3		4
	F2	3		4		5	6

Figure 2—Equivalent risk matrix (equivalent to risk graph of Figure 1)

A form is filled in with the result of the first risk assessment; each hazardous situation is allocated a risk index. The estimation of each hazardous situation is made with consideration given to the following:

— a risk index of 1 or 2 corresponds to the lowest priority of action (priority 3);
— a risk index of 3 or 4 corresponds to a medium priority of action (priority 2);
— and a risk index of 5 or 6 corresponds to the highest priority of action (priority 1).

Possible means of reducing risk are considered and risk is then for the final design using the same risk graph in the same manner as for the initial design. A risk index of 2 or less has been evaluated as representing the level at which no further risk reduction is required.

3. RISK ASSESSMENT AND RISK REDUCTION

Mechanical hazards						
NO. 1.1	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Entanglement	2	2	2	2	5
Location	Chain					
Situation	During operation					
Risk Scenario	Getting entangled by the chain.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
Install external guarding to prevent access to the operating zone.		1	1	1	1	1
NO. 1.2	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Hazards due to surfaces, edges, or angle	2	1	2	2	3
Location	Whole machine.					
Situation	During operation and maintenance					
Risk Scenario	Surfaces, edges, or angles that are not rounded may lead to low to moderate injuries for operators					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
All edges are rounded.		1	1	1	1	1
NO. 1.3	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Slipping, tripping, and falling	2	1	2	2	3
Location	Operating zone					
Situation	During operation and maintenance					
Risk Scenario	A potential risk of slipping, tripping or falling during work, may lead to low to moderate injuries.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**

The area in which the operator assigned to operate the machine is expected to stand is at ground level so that there is practically no risk of falling.	1	1	1	1	1

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Electrical hazards						
NO. 2.1	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Contact with live parts	2	1	3	2	4
Location	Whole Machine					
Situation	During operation or maintenance					
Risk Scenario	Operators may be injured due to shock as a result of contact with live parts.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
1.Electrical equipment complies with the requirements of EN 60204-1. 2.The electrical cabinet is designed to prevent accidental water splashing, which could create a risk of electrical shock. 3.All electrical wires and components are adequately insulated to prevent accidental contact. 4.Electrical panels and other areas with live parts are enclosed and secured with appropriate covers or barriers. The winding device is properly grounded to provide a safe path for electrical current in case of a fault. 5.Clear warning signs are placed near electrical panels and other areas with live parts to alert operators of the potential hazard.		1	1	1	1	1
NO. 2.2	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Overload or Short-Circuit	2	1	3	2	4
Location	Control panel					
Situation	During operation or maintenance.					
Risk Scenario	Fire or cable burns due to overload or short-circuit.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
1.Electrical equipment of the whole assembly complies with the requirements of EN 60204-1. 2.Overload protection devices are used. 3.Shortcut protection devices are used.		1	1	1	1	1

Thermal hazards						
NO. 3.1	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Fire inside the machine	2	1	3	2	4
Location	The entire machine					
Situation	During operation					
Risk Scenario	Fire poses the risk of burns or inhalation of toxic fumes.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
1.The assembly is designed and constructed to avoid any risk of fire or overheating caused by the machinery itself or by gases, liquids, dust, vapors, or other substances produced or used by the machinery. 2.Shortcut protection devices are used.		1	1	1	1	1
NO. 3.2	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Contact with hot surfaces	2	1	3	2	4
Location	Electric motor parts					
Situation	During operation and maintenance					
Risk Scenario	During operation or maintenance in case of access to the heated parts of the machine may lead mild to severe burns.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
1.Hot surfaces should be insulated with appropriate materials to prevent direct contact. 2.Interlocking guards according to EN ISO 14119 are used.		1	1	1	1	1

Noise hazards						
NO.4.1	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Excessive Noise	1	1	3	2	2
Location	Whole Machine					
Situation	During operation.					
Risk Scenario	Hearing losses (deafness), and other physiological disorders (e.g. loss of balance, permanent hearing loss, loss of awareness, etc.) may occur due to excessive noise.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
1.The machine is designed according to EN ISO 11688-1.		1	1	1	1	1

Ergonomic hazards						
NO. 5.1	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Repetitive actions	1	1	3	2	2
Location	Whole Assembly					
Situation	During operation					
Risk Scenario	Neglect of ergonomic principles may lead to excessive or repetitive efforts. Impairment to health and the risk of accident might be the result.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
1.The assembly is designed in accordance with EN 614-1+A1, EN 1005-1+A1, EN 1005-2+A1, EN 1005-3+A1 and EN 1005-4+A1. 2.The assembly does not have functions that necessitate repetitive actions.		1	1	1	1	1
Ergonomic hazards						
NO. 5.2	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Design of Control System	1	1	3	2	2
Location	All Asssembly					
Situation	During operation and maintenance					
Risk Scenario	The neglection of ergonomic principles in design of control systems may lead anatomic disfunctions and mild injures.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
1.The machine is designed according to EN 894-1, EN 894-2, EN 894-3 and EN 894-4. 2. The display and control panel are designed and positioned according to ergonomic standards to ensure clear visibility, easy identification (using pictograms where appropriate), and safe operation without hesitation or ambiguity. The control panel is located outside the machinery to avoid obstructing the operator's movement and allow for adjustments in working position. 3. The control panel is located outside the machine and does not obstruct the operator's movement, allowing for a comfortable and		1	1	1	1	1

adjustable working position.					

Hazards Due to the Control System						
NO. 6.1	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Inconsistent behavior between machines	2	2	2	2	5
Location	All Assembly					
Situation	During operation and maintenance					
Risk Scenario	An inconsistency of behaviors of machines consist of the assembly may lead hazards.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
1. There is a central control system designed to control both machines in the assembly in harmony. 2. Safety-related embedded or application software is designed according to the requirements of EN ISO 13849-1:2015. 3. The Control system of the assembly is designed in accordance with EN 60204-1. This requirements are followed similarly in both machine and they work as a single machine. 4. A change of mode in one of the machines does not lead any hazard. 5. Emergency stops designed in accordance with EN ISO 13850 and stops the whole assembly including both machines.		1	1	1	1	1
NO. 6.2	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Unexpected start, Inadvertent actuation	2	2	3	2	6
Location	Control System					
Situation	During operation and maintenance					
Risk Scenario	Unexpected start may cause severe injuries and fatalities.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
1.The control system is designed to prevent unexpected startups and changes in parameters that could lead to hazards. The control system of the assembly is designed in accordance with EN ISO 13849-1 and EN 60204-1. Trying to start one machine does not actuate the system. 2. In case of a power failure, the machinery is automatically de-energized to prevent unexpected startup when power is restored. 3. The machine is designed in accordance with EN ISO 14118.		1	1	1	1	1

4. Inadvertent actuation is prevented by the design of the actuator. 5. After stopping due to use of interlocking guard, the machine does not start automatically. A reset function is needed. 6. The machine can only be started when interlocking guards are closed. 7. Emergency stop devices are available to quickly stop the machine in case of an unexpected startup or any dangerous situation.						
NO. 6.3	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Software Error	2	2	3	2	6
Location	Control System					
Situation	During normal operation and during maintenance					
Risk Scenario	A software error during normal operation or maintenance may lead severe injuries.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
1. The control system is designed in such a way that a fault in the software does not lead to hazardous situations in all machines of the assembly consisting of multiple machines. 2. The control system is designed in accordance with EN ISO 13849-1 and EN 60204-1.		1	1	1	1	1

Hazard from Materials/Substances						
NO. 7.1	**Hazards Details**	**S**	**F**	**O**	**A**	**level**
Hazard Type	Dust	1	1	3	2	2
Location	Operating zone					
Situation	During operation					
Risk Scenario	Minor dust is generated during workpiece heating, potentially causing slight respiratory discomfort.					
Risk reduction						
Method		**S**	**F**	**O**	**A**	**level**
Install dust extraction equipment.		1	1	1	1	1

--End of Report--