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# 3 Safety Precautions

## 3.1 Notification

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The responsible owner/user of this mixer unit must choose one person as accountable, that any person who is occupied around the mixer unit has the necessary qualification.

The responsible owner/user of the facility must ensure that this manual is properly updated during any modifications of the mixer unit.

This manual must be found in the immediate vicinity of the mixer unit. If this is not possible, it must clearly be indicated on the mixer unit where this manual is stored.

## 3.2 General safety precautions

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The mixer unit should not be operated before it is installed and all safety devices are connected, and the complete machinery is declared to be in conformity with applicable standards.

It is not permitted to modify the construction, operation, capacity, electric installation, etc. on the mixer unit.

Only trained personnel are allowed to operate the equipment.

If the safety precautions are not followed, risk of personal injury may be present.

It is not allowed to interrupt the safety switch.

Be careful not to drop any hard objects of metal, plastic etc. into the equipment.

Do not place any objects underneath the machine since the V-belt drive is located here and could be damaged. When lifting, be careful to lift under both rims of the motor foundation and not between.

Always regard all electrical equipment as live and regard all pipes and vessels as hot.

**Do not enter the Mixer before the tank is ventilated, there might be some gas left in the tank.**

**It is recommendable that there are made a measuring of the gas in the mixer before entering the tank.**

**It is recommendable that there are made some kind of surveillance to detect if there is running gas out in the operator room. The gas can be dangerous and can cost live.**

### 3.2.1 Spots of danger

The facility is not equipped with warning signs. All personnel must observe the warnings indicated in Figure 3-1. Below is explanation to all warnings shown in Figure 3-1.

#### Vacuum system (if applicable):



Do not get near any inlet/outlets in operation when sucking in powder or when regulating vacuum.

Do not obstruct free flow from vacuum pump. The vacuum outlet serves as outlet in case of the vessel getting pressurised.

#### Steam system (if applicable):



Do not touch the steam equipment during operation. It may cause severe burns.

Do not ever disassemble the steam equipment, unless the main steam supply valve is turned off and the entire system is depressurised and cool.

With the steam system in operation, hot steam may be released throughout the air regulation valve, the safety valve or the vacuum pump.

#### C.I.P. system:



Risk of exposure is present if the piping system fails during the C.I.P. sequence. If this happens please follow safety precautions concerning the operator described in section 3.4

**Mixing vessel:**

The mixing vessel must be considered hot when operating with steam.

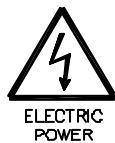
Some vessels are equipped with a steam jacket and in these cases, the vessel must be considered hot especially in the top and in the bottom.

Risk of burns must be considered.

**Turbo unit with adjustable stator (if applicable):**

If the turbo unit is equipped with an adjustable stator, a risk of fingers getting caught must be considered.

Therefore do not get near the turbo unit during operation.

**High voltage components:**

Always consider high voltage components as live and dangerous.

Do not perform any modifications during operation.

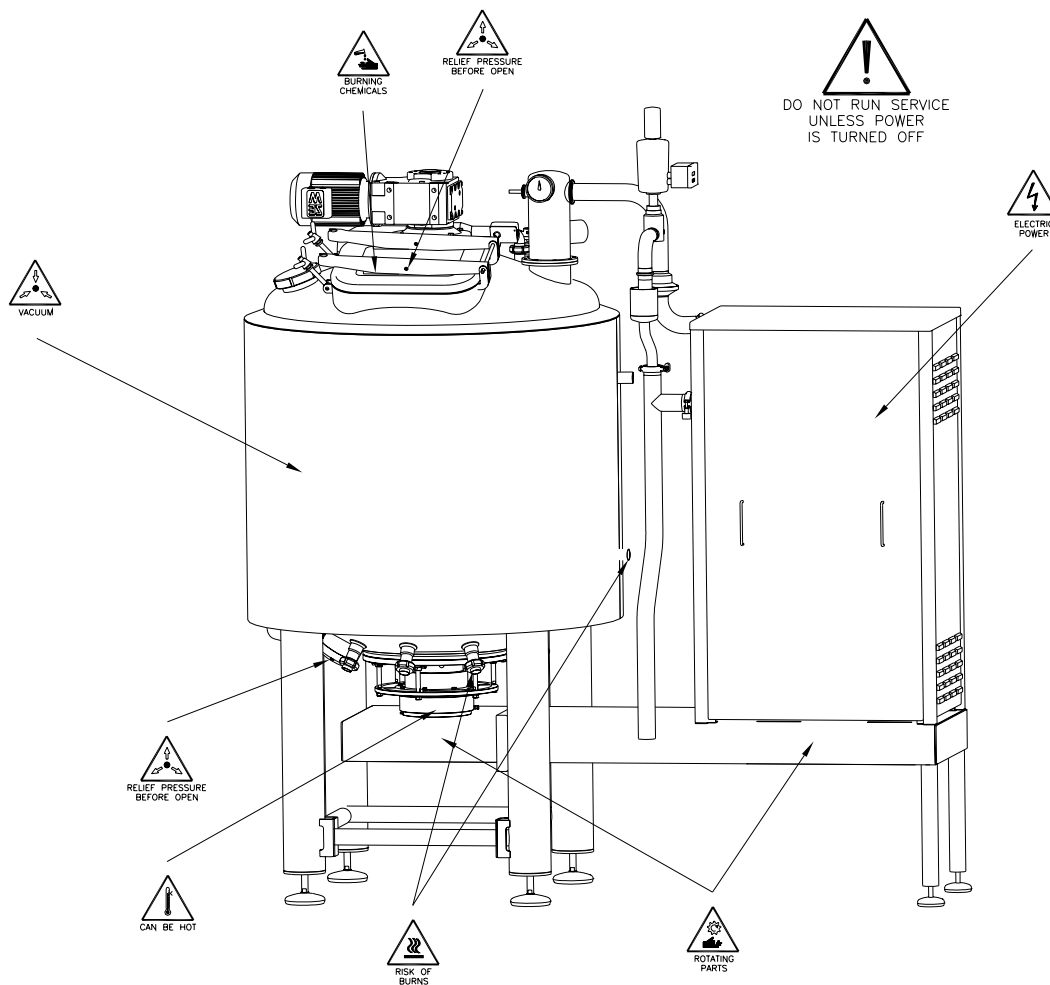
**V-belt:**

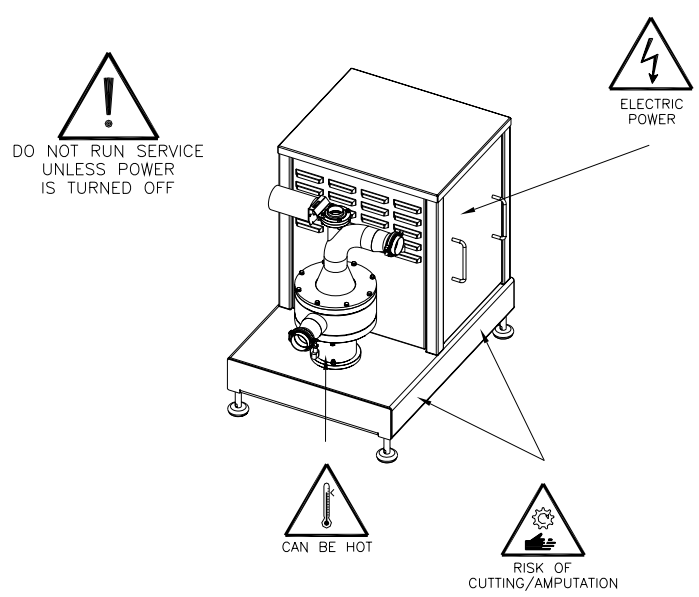
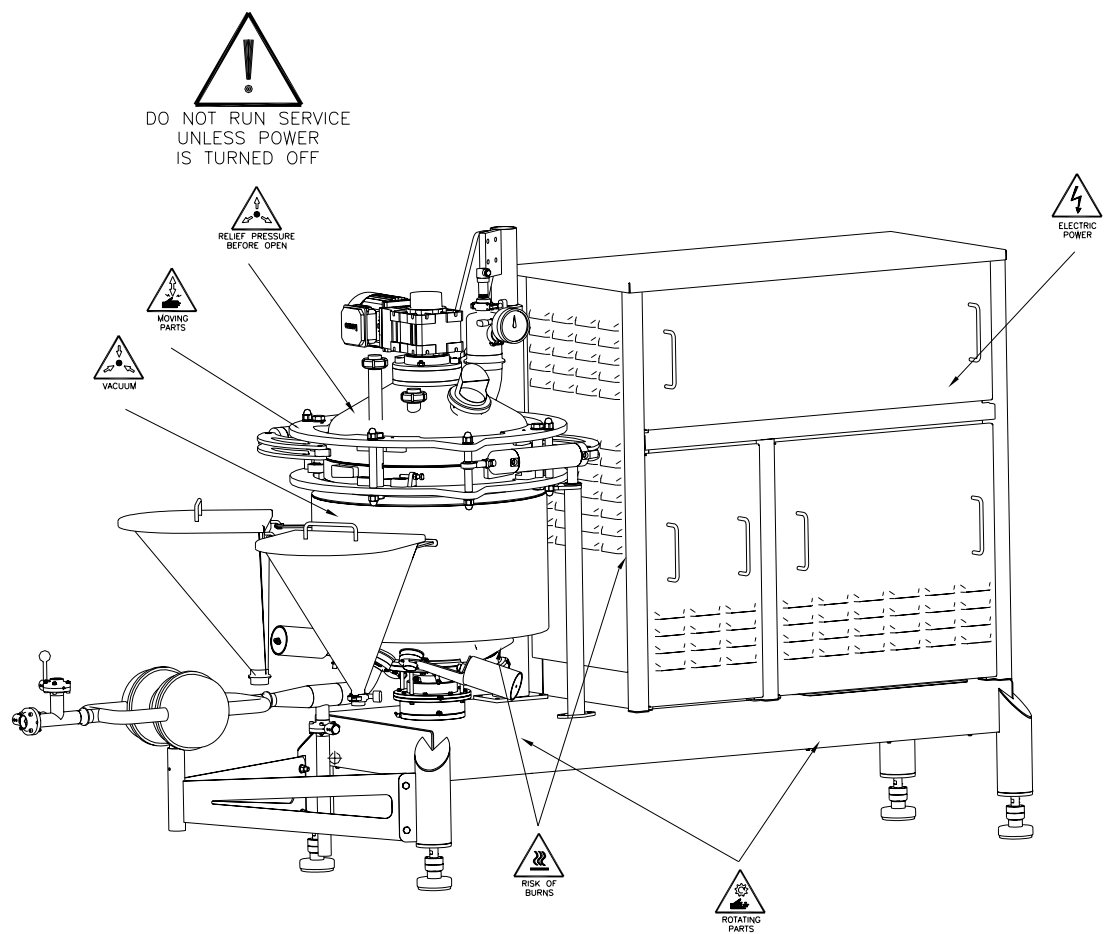
The V-belt drive is located underneath the machine and protected with some shielding. There is no safety device attached to the shielding and therefore it is possible to operate the machine without shielding. However, it is recommended not to operate the machine without the shielding properly installed.

Do not place any objects underneath the machine since the V-belt drive is located here, even though it is properly shielded.

**Other:**

- Agitator:  
Beware of agitator if man way or lid is opened.
- Automatic man way:  
Beware of the man way lid when opening and closing the man way. Also take care when opening the funnel, if any.





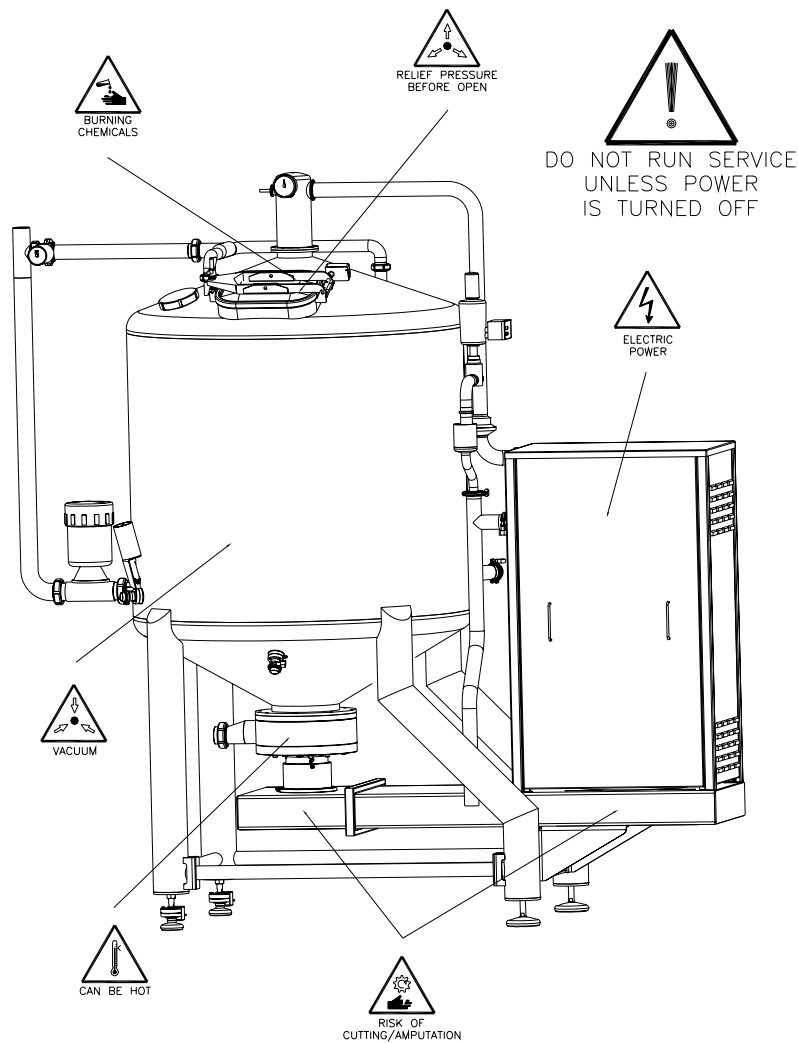


Figure 3-1 Safety drawings

### 3.2.2 General safety measures

Other rules and regulations established by national- or by other authorities or by the company itself must be followed.

Safety measures stated elsewhere in this manual or stated by other local regulating authority, that the use of personal protective devices (i.e. hearing protection, helmet, shoes, protective gloves, etc.) must be followed.



### 3.3 Caution concerning use of the facility

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The mixer is intended for use, according to the specifications stated in this manual and related documents.

Use of the equipment for inflammable or dangerous products is not allowed.

Scanima A/S will not be held responsible for injury or damage if the equipment is manipulated or used for any other purpose than the function designed for.

### 3.4 Safety precaution concerning the operator

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This manual must be read before any use of the facility.

All operators, and other personnel operating this facility, must go through this manual before any operation with the facility begins. The word operator is defined as all personnel working around the facility, ordinary operators as well as any other employee working the vicinity, i.e. loading materials, cleaning, maintenance etc.

Only personnel operating the facility are allowed entrance near the facility.

In the circumstance of access for unauthorised personnel is necessary (i.e. during repairs, visits or demonstrations), must this take place according to predetermined security measures. The responsible personnel of the facility's operation must be informed of the presence of any unauthorised persons.

No person under the age of 16 is allowed entrance near the facility.

#### 3.4.1 Cleaning

The cleaning solution normally contains caustic soda (NaOH) or nitric acid (HNO<sub>3</sub>). This chemical may cause severe burning to skin and eyes. Follow the instructions given by the supplier.

Whenever there is a risk of exposure to these chemicals, always wear:

Safety glasses

Protective gloves

Shoes made of PVC, PE plastic or rubber.

Apron

If exposed - wash with water as soon as possible with as much water as possible.

Seek medical assistance.

### **3.5 Safety precaution concerning maintenance**

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Cleaning of the mixer after stoppage caused by error or malfunction (i.e. blockage etc.), the mixer must be disconnected.

Then the following measures must be taken:

That any start-up of the facility is not possible before all repairs are complete, and all personnel are placed at a safe distance.

That no accumulation of pressure, heat or other materials with the ability of injury to personnel will take place, even with the machine turned off.

Cleaning or removing of objects during operation is not allowed

#### **3.5.1 Maintenance**

All service and maintenance must be carried out according to specifications stated in chapter 6. Scanima A/S will not be held responsible if the operator does not follow these standards or for the use of non-original spare parts.

Before service or maintenance of the equipment is carried out, inform relevant personnel and put warning signs on prominent places. Switch the main power off and lock it with a padlock.

Depressurise and allow the equipment to cool and make sure that it is completely empty before maintenance.

Only use original spare parts.