1 Safety

1.1 Risks from not following the Safety Instructions

The Hammelmann high-pressure water jet machines produced in modern manufacturing systems and the attendant replaceable equipment are subject to a strict quality, function and safety check. Nevertheless, it can be assumed that the product harbours risks if incorrectly used or not used as intended, or is operated by untrained personnel.

The following could arise through incorrect or non-intended use:

- Risks to life and limb
- Damage to the pump/pump unit
- Damage to other assets

It is not a simple matter to handle the product. All those dealing with the product must have read through and understood the manual (as well as all applicable documents).

The operating instructions belong to the product and point to any residual risks. Non-observance of the manual - and particularly the safety instructions - can result in the loss of all claims for damages.

The manual must be kept available where the product is operated. If lost, the manual can be re-ordered from the manufacturer.

1.2 Safety-conscious Work

Incorrect use and a lack of safety awareness in handling high-pressure water jet machines and the attendant replaceable equipment can result in life-threatening injuries.

A pronounced awareness of the potential risks of high-pressure water (and avoidance of risks) is mandatory.

The following must be observed:

- Safety instructions in this manual and in the applicable documents
- The existing national regulations on accident prevention
- Any internal occupational health, safety and operating regulations

Detailed information is given by the professional association regulation BGR 500, Chapter 2.36, “Working with liquid jets”.

2026 © Copyright Hammelmann GmbH, Oelde, Germany. Subject to technical modifications and error amendments.

1.3 Personnel Qualification and Training

1.3.1 Employer's obligations

The employer is the person who charges others with operating the product.

The employer is responsible for seeing that the product is operated with adherence given to the national legal stipulations and as envisaged under the manual.

The employer must ensure that only qualified personnel operate the product.

1.3.2 Operating personnel instructional training

The employer or manufacturer can carry out instructional training on how to handle the product.

Non-trained personnel are considered to be unqualified and must not handle the product.

1.4 Safety Instructions for the Operator

⚠ DANGER

Injuries from a high-pressure water jet

Unprotected contact with a high-pressure water jet results in severe-to-lethal injuries.

- ▶ Only operating personnel both charged and trained for the application are allowed to carry out the work.
- ▶ Always wear the prescribed personal protective equipment.
- ▶ Never use inappropriate, defective or incomplete equipment.

Hazards are generally caused by:

- Injection and cutting effect of the liquid jet
- Spray mists of hazardous substances
- Stripped material swirled up by the liquid jet

Before every start-up, the operator is responsible for ensuring that the operating personnel:

- Are fitted out with the necessary personal protective equipment (PPE)
- Check that the system is serviceable
- Examine the main parts (e.g. safety equipment, hoses).

2026 © Copyright Hammelmann GmbH, Oelde, Germany. Subject to technical modifications and error amendments.

It is essential the user keeps the following in mind:

- To read and follow all the documentation on accessories (e.g. liquid jet operating manual) before start-up.
- To only rectify leaks when the system is not in operation and is depressurized.
- To rectify any malfunctions before start-up.
- In the event of an accident risk, to switch off the system by pressing the EMERGENCY OFF switch or removing the ignition key
- To use only correct tools, e.g. using the appropriate spanner to tighten screws and union nuts.
- When decommissioning, reduce pressure to atmospheric pressure (ambient pressure, “air pressure”) in all parts of the system.
- Only simultaneously operate several consumers when no hazardous recoil changes occur on opening and closing individual spraying devices.
- Do not operate accessories (hoses, high-pressure guns, etc.) at a higher operating gauge pressure than stated on the marking (weakest component = max. pressure)
- Manipulation of safety equipment is strictly forbidden! Damage, e.g. to the seals or locking paint can result in the loss of all claims for damages.
- Only use accessories marketed or expressly approved by HAMMELMANN.
- Seal off the danger zone and mark as such (e.g. with the notice “Caution! High-pressure water! Injury risk!”)

2026 © Copyright Hammelmann GmbH, Oelde, Germany. Subject to technical modifications and error amendments.

1.5 Personal Protective Equipment (PPE)

⚠ **WARNUNG** Protective equipment solely designed for the application provides protection from high-pressure water jets. **Follow the local and national regulations on work safety.**

Wear the prescribed personal protective equipment when handling the product.

PPE for high-pressure jets:

- Protective gloves
- Safety shoes
- Protective clothing
- Face protector
- Ear muffs
- Head protection

PPE when handling injurious substances:

- PPE for high-pressure jets
- Breathing apparatus

PPE for Maintenance and repair

- Eye protection
- Protective gloves
- Safety shoes

2026 © Copyright Hammelmann GmbH, Oelde, Germany. Subject to technical modifications and error amendments.

1.6 Non-authorised Conversions and Modifications

⚠ WARNING

Danger due to improper operation!

The use of unapproved spare parts or replaceable equipment can lead to malfunctions, uncontrolled operating conditions or the failure of safety-related functions. This may result in serious injuries or death.

▶ Do not make any technical changes to the product.

▶ Use only original spare parts and replaceable equipment from the manufacturer designed for safe operation of the product.

The following work is not permitted:

- Non-authorised conversions or technical changes made to the product
- Use of non-original spare parts
- Use of accessories not cleared by the manufacturer

Non-observance can rescind liability for the resulting consequences.

1.7 Notes on Additional Risks

- Observe and follow the safety regulations and operating instructions of the drive motor.
- On driving the pump with a combustion engine:
  Direct exhaust gases out of enclosed spaces (e.g. production shops) and ensure a fresh air supply.
- The additional risks from operating accessories (operating company's obligation) must be clearly pointed out. Always observe and adhere to the respective operating manuals from the manufacturers or suppliers.

2026 © Copyright Hammelmann GmbH, Oelde, Germany. Subject to technical modifications and error amendments.