VERSO CNC

USER AND SAFETY MANUAL

VERSO CNC digital cutting machines - VSR model and equipped variants

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Important warning
• Read this manual in full before any installation, commissioning, operation, adjustment, cleaning, maintenance or troubleshooting work.
• Keep this manual near the machine and make it available to all operators, maintenance technicians and supervisors.
• Use of the machine is strictly prohibited for any person who has not received the required training and employer authorization.
• Failure to follow the instructions in this manual may result in serious personal injury, major property damage and loss of the contractual warranty where the GTCS so provide.

1. PURPOSE OF THE DOCUMENT

The purpose of this manual is to define the installation, operating, safety, routine servicing and maintenance conditions for VERSO CNC VSR-type digital cutting machines. It must be read together with the commercial documents, the machine nameplate, the training instructions provided at installation and, where applicable, the specific instructions for the installed options.

This document constitutes an operating and safety manual intended for the operating entity and users. It does not relieve the purchaser, employer, integrator, installer or end user from carrying out their own analysis of the risks related to installation, the working environment and the materials used.

The manual must be read together with the applicable GTCS, the technical documentation supplied at installation and, where applicable, the instructions issued by the installer or integrator.

2. IDENTIFICATION AND TRACEABILITY

Trade name	VERSO CNC
Machine family	CNC digital cutting / milling table
Model	VSR (depending on working size and ordered configuration)
Serial number	To be recorded from the nameplate
Year of manufacture	See nameplate
Manufacturer / placing-on-the-market entity	According to the nameplate and applicable contractual documents
Associated documents	Declaration of conformity, drawings, installation sheet, commissioning report, training record

3. AUTHORIZED PERSONNEL

- The machine may only be operated, adjusted, cleaned, serviced or troubleshot by adults who have been trained, expressly authorized by the employer and have read this manual.
- Use is strictly prohibited for persons who have not received training delivered or validated by the installer, the authorized reseller or the manufacturer.
- Maintenance tasks beyond routine operator servicing must be carried out exclusively by qualified and authorized personnel.
- Any work on safety components, the electrical cabinet, drives, spindle, tool changer, pneumatic system or control software is reserved for competent and duly authorized persons.

4. INTENDED USE

- Cutting, engraving, drilling, creasing, light to intensive milling, or associated operations, depending on the options and tools actually installed.

- Machining of materials compatible with the machine configuration and the tools used, for example wood, PMMA, PVC, aluminium, sandwich materials, cardboard, felt, foam, vinyl, leather and magnetic media, within the capabilities defined by VERSO CNC.
- Use in an indoor, dry, clean and properly ventilated industrial or workshop environment, outside any explosive atmosphere.
- Operation by a trained operator, with proper workholding, suitable extraction and constant monitoring of the cycle.

5. PROHIBITED USES AND REASONABLY FORESEEABLE MISUSE

- Using the machine without prior training, without authorization, or without having read and understood this manual.
- Entering under the gantry or into the hazardous area during an automatic cycle, including to reposition material, remove offcuts or retrieve a part.
- Bypassing, short-circuiting, masking, misadjusting or removing a safety device, sensor, emergency stop, guard or software protection.
- Using worn, damaged, improperly clamped, unsuitable or unapproved tools for the intended operation.
- Machining incompatible, unknown or flammable materials, materials generating hazardous fumes, or materials liable to produce explosive dust without validated specific measures.
- Using the machine without an extraction system when required by the operation or the material.
- Modifying the machine, control logic, safety parameters, speeds or the electrical/pneumatic architecture without the written approval of the manufacturer or responsible entity.
- Using the machine as lifting equipment, a storage support, workbench, step or for any purpose other than its intended function.

6. GENERAL DESCRIPTION OF THE MACHINE

A VSR machine is a versatile digital cutting table which may be equipped, depending on configuration, with an automatic tool-changing milling spindle, a UTM tangential module, a camera / registration system, a zoned vacuum table and associated accessories. Control is performed using the VERSO CAM software and the machine dashboard.

Subassembly	Main function	Safety notes
Milling spindle	Cutting, engraving, drilling, milling	Risk of entanglement, projection, noise, heating and tool breakage
UTM module	Tangential cutting, oscillating cutting, creasing, tapping depending on configuration	Risk of cuts, pinching and incorrect tool installation
Vacuum table / sacrificial layer	Material holding	Possible loss of hold if extraction/vacuum is insufficient or the material is unsuitable
Gantry and axes	Automatic tool movement	Risk of crushing, impact and shearing
Tool changer	Storage and automatic exchange	Risk of tool drop, collision and

	of tools	incorrect referencing
Camera / laser	Registration and positioning assistance	Possible glare by reflection; follow the specific instructions
Electrical cabinet and pneumatic system	Power supply and energy distribution	Work reserved for qualified personnel

7. RESIDUAL RISKS

- Risk of entanglement with or contact with a rotating or sharp tool.
- Risk of projection of chips, tool fragments, parts or offcuts.
- Risk of crushing, impact or shearing between moving and fixed elements.
- Electrical risk in the event of unauthorized intervention or insulation failure.
- Risk related to noise, dust, fumes, heated materials or burning materials.
- Risk related to compressed air and unexpected re-energization after intervention.
- Risk related to reflective materials in the presence of the laser pointer or integrated lighting.
- Fire risk in the event of unsuitable material, defective tooling, abnormal heating or absence of extraction.

8. PERSONAL PROTECTIVE EQUIPMENT

General principle
• PPE is determined by the employer according to the material being machined, the environment and the workstation risk assessment.
• Wearing gloves is not permitted during operations exposing personnel to an entanglement risk from a rotating tool; it may only be allowed during non-moving phases, handling or tool-change operations, provided this does not introduce any additional danger.

Phase	Recommended minimum PPE	Remarks
Standard machining	Safety glasses, hearing protection, safety footwear	Depending on the material, add suitable respiratory protection
Tool change with energy isolated	Safety glasses; suitable gloves if compatible with the task	Wait for complete stop and lock out
Cleaning / chip removal	Safety glasses; suitable gloves if no parts are moving	Never clean by hand near an unsecured tool

Technical maintenance	According to the procedure and authorization	Lockout/tagout mandatory
Work on materials generating dust / fumes	Suitable respiratory protection and ventilation	Refer to the material safety data sheet (SDS)

9. SAFETY FUNCTIONS AND OBLIGATIONS OF THE INSTALLER / INTEGRATOR

This manual describes the provisions specific to the machine as supplied by VERSO CNC. It does not relieve the purchaser, installer, integrator or operator from verifying the overall compliance of the installation in the country of use.

- Unless otherwise agreed in writing, the machine may be supplied without peripheral safety devices such as light curtains, LIDAR, safety mats, presence-detection systems, weight-sensitive mats or equivalent external protective devices.
- The machine includes a safety input intended to be connected to a compliant OSSD safety system or an equivalent compliant device where required by the selected safety architecture.
- If no compliant safety system is connected, the maximum travel speed must remain limited to 30 m/min. Any increase in speed above this limit is strictly prohibited until a compliant device has been installed, validated and kept in proper working order.
- It is the responsibility of the installer and/or integrator to assess local regulatory requirements, select and connect the necessary safety devices, set speed limitations, verify emergency stops and validate the operating conditions.
- Any bypassing, disabling, incorrect wiring, non-compliant integration, unauthorized modification of safety settings or use beyond the specified limits transfers responsibility to the party concerned and to the operating entity.
- The above obligations are in addition to the absolute prohibition on using the machine without the required training and employer authorization.

10. INSTALLATION AND ENVIRONMENTAL CONDITIONS

- Install the machine indoors on a stable, flat, strong surface that has been properly levelled.
- Provide sufficient clearance around the machine for operation, maintenance, evacuation and emergency intervention.
- Keep the work area clean, dry, well lit and free of clutter.
- Do not install the machine near flames, intense heat sources, water spray, or a corrosive or explosive atmosphere.
- Provide the supplies required by the machine: electricity, compressed air, communication network where applicable, and dedicated extraction depending on the configuration.
- Upstream connections and protective devices must comply with the technical requirements communicated during sale and installation.

11. TRANSPORT, HANDLING AND STORAGE

- Transport, lifting and handling must be carried out by competent persons using equipment sized for the weight and dimensions of the machine.
- Never lift the machine by its guards, hoses, cables, sensors, gantry, spindle, tool changer or any element not intended for that purpose.
- If the machine is stored before installation, keep it in a dry, clean place protected from shock, corrosion and excessive temperature variations.

12. INITIAL COMMISSIONING

- Commissioning must be carried out or validated by the installer, the authorized reseller or the manufacturer.

- Before power-up, check general integrity, absence of transport damage, proper fastening of components, presence of accessories, compliance of connections and absence of foreign bodies on the table.
- Carry out functional tests, operator training and handover of documentation before normal operation.
- Record commissioning and training in a report or service record.

13. CHECKS BEFORE EACH START-UP

- Check that the work area is clear, clean, properly lit and free of unauthorized persons.
- Check the condition of tools, tool holders, collets, blades, hoses, cables and visible sensors.
- Check correct material holding and the suitability of the sacrificial layer or support.
- Check that extraction is operating, compressed air is available and no machine alarm is present.
- Check that all emergency stops are accessible and that safety devices have not been disabled or damaged.
- Check that the loaded program, origin, selected tool and machining parameters exactly match the intended operation.

14. START-UP, NORMAL OPERATION AND MONITORING

- Power up the machine in accordance with the validated installation procedure.
- Perform the homing and preliminary checks required by the control software.
- Start the cycle only after full validation of the program, tool and material holding.
- Continuously monitor the proper progress of the operation; never leave the machine without active supervision when the operation requires it.
- Remain outside the hazardous area during automatic movements.
- In the event of abnormal noise, vibration, smoke, suspicious smell, overheating, loss of material hold, erratic behaviour or imminent collision, stop the machine immediately.

15. NORMAL STOP, EMERGENCY STOP AND RESTART

Difference that must be strictly observed
• A normal stop is the procedure for the end of an operation or a controlled interruption.
• An emergency stop is reserved for the immediate removal of a dangerous situation or one likely to become dangerous.

- After a normal stop, wait until all movements have completely stopped before entering the work area.
- After actuating an emergency stop, identify and resolve the cause before any reset.
- Resetting an emergency stop must never by itself cause an automatic restart.
- Any restart after an incident must be preceded by verification of the program, tool, material and machine references.

16. LOCKOUT/TAGOUT BEFORE INTERVENTION

- Stop the machine and wait until all movements have completely stopped.
- Isolate the machine from its energy sources in accordance with the installation: electrical power, compressed air and any auxiliary energy.
- Lock and identify the isolation devices in accordance with the operator's site practices.

- Dissipate residual energy and verify that no movement can restart.
- Do not begin intervention until you have ensured that no residual danger remains.
- Remove lockout/tagout only once the intervention is complete, the area is clear and all persons are out of danger.

17. TOOL CHANGE AND ADJUSTMENTS

- Tool changes must be carried out according to the validated procedure for the installed configuration.
- Use only tool holders, collets, blades, cutters, tapers and accessories that are recommended or approved.
- Check the cleanliness of tapers, tool holders and interfaces before installation.
- Comply with the lengths, references and positions specified by the software and, where applicable, by the automatic changer.
- Never work near a tool that is not fully immobilized; wait until the spindle and axes have completely stopped.
- Any tool showing a defect, impact damage, excessive wear, abnormal runout or improper clamping must be removed from service.

18. MATERIALS, DUST, FUMES AND FIRE

- Before machining any new material, verify its compatibility with the process, tooling, extraction system and the site's safety conditions.
- Refer to the safety data sheets for materials, adhesives, films, foams or composite materials where available.
- Certain materials may generate harmful dust, irritating fumes, corrosive emissions or a fire risk; the operating entity must take all necessary measures.
- Never use flammable liquids, sprays or gases in the immediate vicinity of the machine.
- In the event of fire outbreak, stop the machine, isolate the energy sources if this can be done safely, and apply the site's fire procedure.

19. ROUTINE OPERATOR SERVICING

Frequency	Operation	Responsible person	Remarks
Each shift	Cleaning the table and sacrificial layer, removing chips and offcuts	Trained operator	Machine stopped; clean using suitable means
Daily	Visual inspection of tools, hoses, cables, emergency stops and extraction	Trained operator	Report any anomaly immediately
Weekly	Check the general condition of rails, bellows and travel areas	Trained operator / maintenance	Do not remove any guard
According to use	Replacement of machining consumables	Trained operator	Follow the tool change procedure
Periodic	Lubrication operations, adjustments and in-depth technical inspection	Qualified maintenance	According to the VERSO CNC maintenance plan

20. MAINTENANCE, REPAIR AND PARTS

- Any maintenance or repair beyond operator tasks must be carried out by a qualified and authorized technician.
- Use only original parts or parts approved by VERSO CNC.
- After intervention, verify full restoration of guards, safety devices, connections and parameters required for safe operation.
- Any unauthorized modification of the machine or use of non-approved parts transfers responsibility for the resulting consequences to the person carrying out the work and to the operating entity.

21. ANOMALIES, INCIDENTS AND REQUIRED ACTION

Observed situation	Immediate action	Follow-up action
Abnormal noise, vibration, collision, tool loss	Immediate machine stop	Lock out if necessary, identify the cause, do not restart without inspection
Smoke, burning smell, abnormal heating	Immediate stop; isolate energy sources if safe to do so	Apply the site's safety procedure and investigate the cause
Inconsistent axis movement or path error	Immediate stop	Check the program, origins, parameters and machine condition
Loss of extraction/vacuum or insufficient material holding	Interrupt the operation	Correct the holding before restart
Apparent electrical fault, damaged cable, abnormal cabinet	Take out of service	Work reserved for qualified personnel
Repeated or unexplained fault	Do not persist	Contact technical support or the authorized reseller

22. RESPONSIBILITIES AND LIMITS OF USE

- The operating entity is responsible for machine siting, workstation organization, evaluation of machined materials, operator training and compliance with applicable local regulations.
- The manufacturer, seller or reseller shall not be held liable for the consequences of non-compliant use, lack of training, unauthorized modification, inadequate maintenance, safety disabling, or use of non-approved materials / tools.
- This manual supplements the GTCS, technical documentation, installation / commissioning reports and site instructions. It may not be interpreted as transferring to VERSO CNC obligations that contractually or legally rest with the purchaser, installer, integrator or operating entity.

23. END OF LIFE, DISMANTLING AND DISPOSAL

- Permanent decommissioning must be carried out by competent persons after full lockout/tagout and isolation of energy sources.
- Components, fluids, electrical equipment and machining waste must be sorted and disposed of in accordance with applicable regulations.

24. RECOMMENDED RECORDS

- Commissioning record
- Operator training record

- Incident and fault log
- Maintenance plan and log
- List of authorized tools, parameters and materials

APPENDIX A - OPERATOR TRAINING RECORD

Machine / serial no.	
Site / department	
Name of trained operator	
Training date	
Trainer / company	
Modules covered	Safety - start-up - tool change - emergency stop - routine servicing
Validation	□ Achieved □ To be completed

APPENDIX B - DAILY PRE-START CHECKLIST

Checkpoint	OK / NOK	Observation
Area clear and clean	□ OK □ NOK	
Material correctly held	□ OK □ NOK	
Suitable tool in good condition	□ OK □ NOK	
Extraction available	□ OK □ NOK	
Compressed air available	□ OK □ NOK	
Emergency stops accessible	□ OK □ NOK	
Program / origin / parameters checked	□ OK □ NOK	
No active alarm	□ OK □ NOK	