USER GUIDE



Manufacturer: Jetting AB

Product Name: Jetting V2 Fiber Blowing Machine

Manufacturer Part Number: V2-CAN

Click here for more details on the Jetting V2 Fiber Blowing Machine

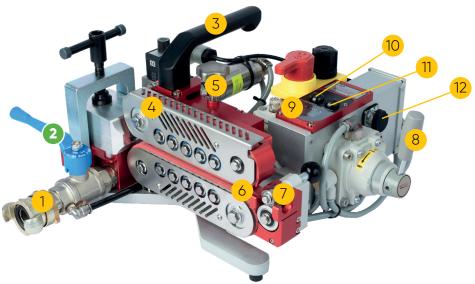


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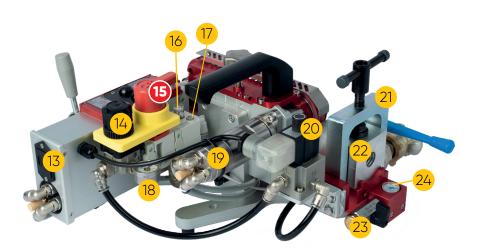
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Jetting AB, Murgatan 1, 522 30 Tidaholm, Sweden jetting.se



- 1. Claw Connector
- 2. Air Valve
- 3. Handle
- 4. Drive Belt Protection
- 5. Belt Clamping Lever
- 6. Drive Belts
- 7. Cable inlet
- 8. Easy Joystick Controller
- 9. Display
- 10. Power Button
- 11. Reset Button
- 12. Jetlogger socket



- 13. Battery Socket
- 14. Regulator

15. Security Stop

- 16. Oil Adjustment Screw
- 17. Oil Container Screw
- 18. Manometer for Motors
- 19. Pneumatic Motor
- 20. Safety Valve (V2 JLP)
- 21. Clamp bracket
- 22. Duct Clamps
- 23. Duct Release Air Valve
- 24. Manometer Duct

Important Safety Notice

Read and understand all procedures and safety instructions before using the V2 fiber blowing machine. Please note all safety information on this page and take note of specific safety requirements outlined in the procedures of this manual. Failure to follow these instructions may result in serious personal injury or death.















Warning: The noise level will exceed 70 dB.

1. General Information

The V2 is a unique device designed for the installation of fiber optic cables directly into ducts. The V2 consists of a duct clamp and a belt drive system, which, when combined, installs a cable into an airtight duct at speeds ranging from 0-200 m/min.

The V2 comes equipped with an LCD display as standard. The machine should be complemented with specified duct clamps, cable seals, and cable guides depending on the dimensions of the duct and cable for installation.

This user manual provides a comprehensive description of the V2, designed to feed fiber optic cable through ducts. The duct must have been previously installed underground or above ground to receive the fiber optic cable and must be sufficiently long at the outlet to be received by the machine. The duct must be made of material with adequate pressure resistance to be tightly sealed in the machine's duct clamps. The duct should be airtight up to a pressure of 16 bar. Duct sizes range from 7 mm-50 mm, while fiber optic cables range from 2.4 mm-16 mm.

The V2 consists of a duct clamp manufactured in two halves that clamp around the duct. The duct clamp holds a seal through which the fiber optic cable is fed before entering the duct. The duct clamp and cable seals can be replaced to accommodate different duct and cable sizes. The duct is mechanically clamped between the clamps, preventing movement in all directions. Seals fit around the duct when clamped securely.

The fiber optic cable is fed through the duct with a combined pulling/pushing force. The pulling force is achieved when pressurized air is fed into the duct clamp and forced into the duct, generating resistance on the fiber cable from the airflow passing over it. The pushing force is created by engaging the belt drive system. As the belt drive system feeds the fiber cable into the duct, pulling force is generated by the airflow. The fiber optic cable floats inside the duct, minimizing resistance to being pushed in by the belt drive.

The use of the V2 for operations other than those described in this manual is considered hazardous and is discouraged. The manufacturer is relieved of any responsibility, civil or criminal, for the use of this machine for purposes other than intended. The manufacturer's responsibility ceases, and the warranty becomes void when any of the following occur:

- A. When the V2 is used for purposes other than described in this manual.
- B. Modifications and/or alterations are made without written approval from the manufacturer.
- C. Non-use of original manufacturer parts.
- D. Poor maintenance.
- E. Failure to use provided safety devices or equipment.
- F. Connection of this device to machines and/or parts that have not been manufactured or approved in writing by the manufacturer.
- G. The V2 should not be used to install any cable other than fiber optic cable specified within the range outlined in this user manual.
- H. The V2 must not operate without oil in the oil reservoir, immediately voiding the warranty.
- I. Check the oil level in the reservoir daily.

Jetting AB is not responsible for damages resulting from improper use of the V2.

2. Technical Information

2.1. User Conditions

- 1. Temperature: -15°C to +40°C
- 2. Humidity: 20% to 90%
- 3. Relevant weather conditions for working conditions. Do not operate in heavy rain or/and lightning.
- 4. Natural and/or artificial workplace lighting: >200 lux

2.2. Air Compressor Requirements

1. Air Pressure: 16 bar max 2. Air Flow: 0.14-11 m3/min

3/4" Claw Connector 3. Couplinas:

4. Max Pressure to Motors: 6 bar

5. Air Conditions: Dry, clean, and oil-free

2.3. Operational Capacity

1. Pushing Force: 550 N max 2. Installation Speed: 200 m/min max 3. Cable Sizes: 2.4 mm to 16 mm

4. Duct Sizes: 7-50 mm

2.4. Electrical Requirements

1. Counter Power Supply: 9 V Alkaline battery 2. Power Consumption: Approx. 15 hours of operation

3. Power Connection: Battery holder

2.5. Physical Specifications

1. Height: 230 mm 2. Depth: 450 mm 3. Width: 420 mm 4. Weight: 11 kg

2.6. Belt Drive

1. Max Clamping Force: 2000 N

- 2. Constant cable center design
- 3. Forward and reverse drive
- 4. One motor per belt drive
- 5. Clamping protection in stainless steel

2.7. Duct Clamps

- 1. Max 16 bar
- 2. Must withstand vibrations and shocks
- 3. Must have an exact fit
- 4. Duct should be cut at a 90-degree angle, and the cut surface should be smooth
- 5. Duct must be placed inside the O-ring but outside the air channel

3. Safety Regulations

Read and understand all procedures and safety instructions before using the V2. Please note all safety information on this page and take note of specific safety requirements explained by procedures outlined in this manual. Failure to follow these instructions may result in serious personal injury, property damage, or death. The equipment must only be handled by trained and authorized personnel who have read and understood all documentation. In the event of mishaps or breakdown, see section 3.1.

The machine is delivered in a custom hard case. When transported, the machine shall be placed in the hard case. The hard case must be locked, and when transported by car, the locked case should be strapped in a safe way, preventing it from overturning if the car brakes hard.

3.1. Machine Safety Shutdown

- 1. Activate the Emergency Stop by turning the red knob clockwise.
- 2. Close the air valve.
- 3. Turn off the compressor.
- 5. Disassemble the unpressurized air hose from the Machine.

Turn the red knob counterclockwise to deactivate the emergency stop.



3.2. Workplace Safety

- 1. Wear personal protective equipment: ear protection, hard hat, safety glasses, steel reinforced safety shoes, and light leather work gloves (OSHA-approved or Personal Protective Equipment Directive 89/686/EEC-compliant).
- 2. The operator is responsible that no children or unauthorized persons are close to the machine while in operation.
- 3. Do not operate this equipment with guards removed or damaged.
- 4. It's strictly forbidden to wear loose fitted clothing and jewelry when operating the machine.
- 5. Check machine before starting for worn or damaged parts, loose nuts and bolts etc.
- 6. If machine is left unattended, ensure that unauthorized use is prevented.
- 7. Keep long hair securely tied back.
- 8. The safe use of this equipment requires operators to stand on stable ground.
- 9. Be careful when handling cables and live wires
- 10. Be careful when handling pressurized lines and hoses.
- 11. Stay clear of cables or lines under tension.
- 12. Use the machine only for its intended purpose.
- 13. Do not place cable drums too close to the unit. Position the drum minimum 2 meters from machine.
- 14. Keep hands away from drive wheels and moving parts during operation.
- 15. Beware of hot and cold surfaces, machine uses compressed air.
- 16. The machine is equipped with a handle; use this when lifting or handling the machine. The machine weighs more than 11 kg (24 lb). When lifting, be careful and avoid personal injury and machine damage.
- 17. Beware of exposed electrical contacts. Do not touch, or allow metal objects to come into contact.
- 18. Machine may cause additional fire hazard if involved in an existing fire due to compressed air.
- 19. No personnel are to be in manholes or ducts when the Fiber Blowing Machine is being operated
- 20. Ensure no personnel are in the manhole at the far end of the cable run. Severe personal injury may result.
- 21. The machine must be operated on firm ground.
- 22. Only use the machine for its intended purpose, do not use the belt drive without the air chamber to push or to retrieve cable, blow air in the far end to help cable recovery.

- 23. Do not tamper with pressure relief valves or pressure reducing valves.
- 24. The compressed air supply must not be allowed to enter the air chamber or duct before the belts have been closed on to the cable. Do not turn the air on until a reasonable length of cable 100 m (300 ft) has been installed into the duct.

FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY, AS THE CABLE COULD BE EJECTED FROM THE FIBER BLOWING MACHINE WITH HIGH FORCE AND VELOCITY.

- 25. Ensure the cable drum rotates freely on its stand; the cable should leave from the top of the drum.
- 26. The cable should enter the machine in a clean and dry condition. In damp, dusty atmospheres, the cable should be cleaned continuously as it enters the machine.
- 27. Do not open the air chamber until all the air has been exhausted and the air pressure gauge reads
- 28. The machine must not be operated without belt protection covers.

3.3. Pneumatic Devices

The V2 is a pneumatic device that utilizes compressed air to install cables at high speeds.

Please observe the following precautions when using the machine:

- 1. Compressed air generates flying debris. Always wear personal protective equipment.
- 2. Serious personal injuries can occur. Always wear personal protective equipment.
- 3. Never open the air chamber when pressurised. 🛕 Do not open until the air pressure gauge read zero.
- 4. Only AUTHORIZED, fully trained personnel should operate the air compressor.

3.4. Electrical Devices

The control unit and the digital display are electrical devices. There are risks of electrical shocks that can lead to serious personal injury or death. Please note the following precautions to avoid electrical hazards:

- 1. Do not place the unit on a wet surface.
- 2. Do not use when there is thunder, lightning, or extreme weather conditions. A grounding rod driven into the ground as an additional protection is recommended if there is any risk of extreme weather conditions.
- 3. Do not remove the cover of the digital display. There are no user-serviceable parts inside. Leave servicing to qualified service personnel.
- 4. The machine has electrical monitoring and safety circuits. Observe the following precautions to avoid electrical hazards:
 - Do not operate in or near water.
 - · Do not expose the machine to rain.

3.5. Working in Darkness

1. The operator must provide portable lighting that achieves a light intensity of at least 200 lux (lumen/m^2).



Improper use voids the warranty

CRITICAL POINTS THAT DRAMATICALLY AFFECT THE OPERATION OF THE FIBER BLOWING MACHINE

- Pressure on the cable should be set as per the instructions.
- Belts to be closed at all times when cable is installed into the machine.
- Cord seals in the air chamber in good condition and correctly fitted to provide good sealing.
- Correct cable seal fitted.
- Duct/inner-duct fully connected and pressure tested.
- Duct and connecting fittings are suitable for operating at 232 psi (16 bar) air pressure.
- Duct clamp securely tightened.
- Compressor capacity suitable for the diameter of inner-duct being used up to 232 psi (16 bar) (higher pressure gives better performance).
- Cable drum must be located in line and minimum 2 meters from the blowing machine.
- Air chamber, drive belts and pulleys, cable guides must be clean and free from debris, sludge, dirt, water, and lubricant.
- The cable must be hand-guided into the blowing machine through a dry, clean cloth by the operator wearing work gloves.
- Ensure the compressed air supply is not applied to the cable until approximately 300' (100 meters) of cable have been installed.
- Check the duct, duct clamp, cable and cable seals before starting the installation.

DISCLAIMER

Jetting takes care in the design of its products to help ensure that the cable is protected during installation. Due to the variety and different methods of cable manufacture, the responsibility of checking the cable compatibility with the equipment lies with the operator. Therefore, Jetting cannot accept liability for any damage to the cable.

4. Unpacking the Box/Case

Components

Each V2 STD Kit includes the following items:

- V2 main unit
- Machine mounts x2 (1 unit omitted for shipments other than wooden box)
- Jetting lubricant, Duct Lube, Micro Duct Lube
- Duct clamps (vary depending on order)
- Cable sealing kit (vary depending on order)

- Hex key
- Assortment box
- Clamp bracket
- O-ring cord
- Manual
- Grounding cable
- O-ring

5. Set Up the Machine

This user manual provides installation and operating instructions for the V2.



Do not connect the air supply until the installation is complete. The machine should be anchored in the machine fixture. The fixture should be mounted on a stable, flat surface.

5.1. Determine Fiber Cable Size

1. Determine the size of the cable to be installed.

5.2. Select Cable Sealing and Duct

1. Choose the appropriate cable sealing and duct clamp for the specific application based on the duct and cable size.

5.3. Install Cable Sealing & Fiber Cable in the Duct Clamp

- 1. Loosen the clamp bracket on the duct clamp. Open the duct clamp.
- 2. Install the appropriate cable sealing on the fiber. Ensure that the direction of the seal on the fiber is correct so that it fits securely in the duct clamp. The sealing lip of the cable sealing should face toward the end of the duct.
- 3. Once the cable sealing is correctly positioned on the cable, install the cable sealing into the lower half of the appropriate duct clamp.

5.4. Install Duct

- 1. Place the duct securely in the lower duct clamp.
- 2. Ensure there is sufficient length available on the duct to avoid unnecessary strain on the duct.
- 3. Once the duct is in place, close the duct clamp and tighten by screwing the clamp bracket. It should be airtight.

5.5. Install Fiber in Belt Drive and Tighten

- 1. Thread the cable through the rear cable guide and between the belt drives to control mobility.
- 2. Tighten the upper and lower belt drive with the Belt Clamping Lever to ensure even pressure on the
- 3. Tighten without causing the belt drives to slip during the pressure force setting determined in the crash test procedure. Do not overtighten.

5.6. Connect to Air Compressor

Note: Ensure that the regulator is set to 0/off, and the Easy Joystick Control is in the STOP position before connecting the air hose.

- 1. Connect the air hose to the air compressor.
- 2. Connect the air hose to the machine. The unit uses a Claw Connector.



Always use clean, oil-free, and dry air. Route all hoses in a safety way to prevent tripping hazards.

To avoid creating tripping hazards, Place the air hose away from the work area and secure it to a stable object.

5.7. Placement of Cable Drum

The cable drum should be positioned in line and at least 2 meters away from V2. The fiber should not enter the V2 at an angle greater than 10 degrees from the intended direction of travel.

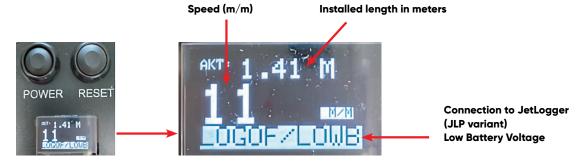
5.8. Connect battery to the Unit

Insert battery in the battery socket. Use a high-quality 9V battery.



5.9. Display

- 1. Activate the display by pressing the POWER button. Reset values by pressing RESET.
- 2. The V2 display shows the number of meters of blown fiber cable in the duct (m) and the current speed (m/m meters/minute).
- 3. For the V2-JLP version, the connection to the JetLogger documentation system is displayed as follows: Connected (LOGON)/Disconnected (LOGOF) & Low Battery (LOWB).
- 4. When the machine is not in operation, the display should be turned off to conserve battery power.
- 5. Switch between meters and feet/feet and meters. The machine must be turned off. Hold down 'reset' and then press 'power'. When the display starts, release 'reset'.



5.10. Connect Grounding Cable

Connect the machine to the grounding spike or directly to the drum holder.

6. Cable Crash Test

Cable crash testing is a rapid and simple step that should be completed before attempting to install fiber cable with the V2. This test is necessary to set the regulator's position for the motors under the breakpoint (pressure force) where the V2 can cause fiber cable damage due to over-pressurization or encountering an obstacle in the duct system. Each fiber cable has different pressure values based on size and design.



Always wear protective equipment: a safety helmet, safety glasses, steel-reinforced safety shoes, and work gloves.









IMPORTANT

Use the same size of cable and duct that will be used for the job. Jetting cannot be responsible for any cable damage.

Crash Test: For all cable types > 3 mm diameter

Set the pressure between the belt drives and fiber cable at the lowest possible setting that allows a desirable installation speed.

- 1. Insert the fiber cable and seal into the duct as it would be for the actual installation.
- 2. Install a 2-3 m test length of duct in the V2 clamp and secure the clamp.
- 3. Block the end of the test length of duct.
- 4. Tighten the belt drives against the fiber cable with the belt drive engaged in the forward direction until the fiber begins to be installed.
- 5. Insert the fiber cable into the blocked end of the duct.
- 6. Belt drive slippage should occur on the fiber before the fiber bends.
- 7. Tighten the belt drives against the fiber cable half a turn.
- 8. Repeat steps 6-7 until the fiber cable bends. This is your pressure force slip limit.
- 9. Loosen the belt drives on the fiber cable a quarter turn and perform the test again to confirm that no bending has occurred. MAINTAIN THIS SETTING FOR THE FIBER CABLE FOR ACTUAL INSTALLATION!
- 10. Replace the test length of duct with the actual installation duct and proceed to section 7. Machine Operation of V2.

7. Machine Operation

7.1. Verify Adjustable Pressure Force

Verify that the adjustable pressure force is set to the established crash test value, and the speed is at a minimum. Turn the regulator to 0 bar by lifting and rotating the ring fully counterclockwise. Ensure that the Easy Joystick Controller is in the STOP position.

7.2. Connect Belt Drive

The belt drive can be maneuvered forward and backward with the Easy Joystick Controller. For installation, connect the belt drives by first increasing the regulator to the desired air pressure for the motors, e.g., 1-6 bars. For forward drive, move the Easy Joystick Controller to the forward position. This operates continuously and also controls the speed. Install the cable in the duct with motor power only until the speed starts to slow down (about 100 m). Then, compressed air is added.

7.3. Activate Air Pressure

Slowly open the ball valve to allow airflow to the duct clamp. Do not apply maximum air pressure and flow on the initial air insertion. Do not open the air supply until the desired speed slows down (about 100 m). Then gradually increase the air pressure in steps of about 10-20% at a time. Follow the speed of the cable installation and balance air pressure gently against belt drive speed. Too much air can slow down or stop the installation.



Do not exceed 16 bars when using the device. Compressed air generates flying debris. Always wear personal protective equipment.

7.4. Adjust Speed

Use the regulator to adjust the belt drive speed in combination with the Easy Joystick Controller to ensure smooth installation and match the amount of air pressure used so that the forces cooperate.

7.5. Install Cable

The cable must be dry and clean of dirt.

7.6. Stop Belt Drive

To stop the belt drive, reduce the air pressure on the regulator or move the Easy Joystick Controller to the STOP position. The emergency stop is activated by turning it clockwise.





Do not run motors with an empty or malfunctioning oil container!

7.7. Check Oil Level

Check the pneumatic oil container to ensure continuous oil mist lubrication to the motors. The oil level must always be above the hose in the oil container.



7.8. Refill Oil

Oil can be filled into the container in two different ways. Use only Jetting Pneumatic oil 32.



Alternative 1. Loosen the oil container screw and fill.



Alternative 2. Unscrew the entire container by hand counterclockwise and pour the oil directly into the container.

IMPORTANT! Make sure the O-ring on top of the container is properly positioned when tightening, otherwise mist lubrication will not work correctly.

7.9. Calibration of mist lubrication

- 1. Start the process by activate Machine Safety Shutdown (see 3.1).
- 2. Turn the adjustment screw clockwise to the bottom.
- 3. Rotate the adjustment screw counterclockwise to '3'.
- 4. Place the Easy Joystick Controller controller in stop position.
- 5. Deactivate the emergency stop by turning it counterclockwise.
- 6. Turn the regulator to 0.2 MPa.
- 7. Position the Easy Joystick Controller controller to 'Forward'.
- 8. Count the number of drops from the tap inside the adjustment screw. The correct amount should be 1 drop every 30 seconds.
- 9. If necessary, turn the adjustment screw counterclockwise to increase or clockwise to decrease the amount of oil.







2.



5.

8.



4.

1.





7.10. Motor Lubrication for machines not in use

⚠ Must be done if the machine is not in use for 2/3 days or longer.

- 1. Start the process by activate Machine Safety Shutdown (see 3.1).
- 2. Place V2 upside down and let it rest on the black handle. The quick connectors on the motor are now easily accessible.
- 3. Disconnect the hose from the quick coupling and pour 10 ml of oil into the coupling. Reattach.
- 4. Perform the same procedure with hose number two.
- 5. Turn the machine back and rotate the upper and lower drive belts by hand. Rotate a full turn to ensure full lubrication of the motor.





1.





3. 4.



5.

7.11. Additional

Do not exceed air pressure more than 6 bars to the motors. Micro cables up to 5 mm should never exceed 3 bars of air pressure to the motors.

8. Maintenance



Disconnect the air supply and vent any air pressure before servicing any component on the V2. Avoid handling leaking connections, valve seals, or inadequately sealed duct clamps. DANGER! Risk of compressed air penetrating the skin causing air embolism. In case of suspicion, immediately contact emergency medical care.

Procedure	Daily	Weekly	Monthly	60 days	90 days
Clean all units and components thoroughly with a dry cloth.	V				
Inspect hoses, cables, connections, fastening elements, couplings and screws for any signs of damage or looseness.	√				
Inspect the belt drives. Replace them if excessive wear has occurred. Excessive wear is evident when the belt drives can no longer grip the fiber optic cable effectively.	>				
Check the oil level. The oil level should never be completely empty. (See section 7.7-7.8)	>				
Verify the operation of the mist lubricator (See section 7.9)	>				
Inspect the duct seals (O-rings).					V
Motor Lubrication for machines not in use. (See section 7.10)	Must be done if the machine is not in use for 2/3 days or longer.				
Belt Replacement	Every 50 kilometers unless excessive wear occurs.				
Replacement of Cable Seals	Every 10 kilometers unless excessive wear occurs.				
Always use clean, dry, and oil-free air.	Use a compressor with a water separator/dryer.				





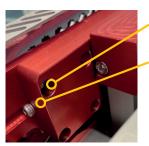
Disconnect the air supply and release any air pressure before inspecting or servicing the V2.

8.1. Belt Tension Inspection



Check the wear of the belts. Inspect the tension of the belts. Properly tensioned belts are checked by folding the belt approximately 45 degrees. Ensure that the slide rails are clean and lubricated. WD40 or 5-56 lubricant can be used.

8.2. Adjustment of the upper belt



Adjustment of the upper belt. To adjust - loosen the 4 screws at the back that secure the upper pulley.

Adjust the screw for the upper drive belt.

To adjust the belt tension: tighten the adjustment screw clockwise to tighten the belts or counterclockwise to reduce tension. Once the correct tension on the belts is achieved, tighten the 4 screws. Reassemble the adjustment screw to secure the lock.

8.3. Adjustment of the lower belt.



For adjustment - loosen the 4 screws at the back that secure the upper pulley.

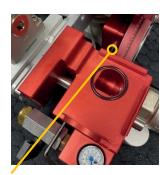
Adjustment screw

4 screws



To access the bracket, use a 3 mm Allen key.





To acess the adjustment screw to the lower belt

10. Troubleshooting

The cable is stuck in the hose.

- Notify the people at the other end of the duct that an issue has occurred, and the operator will shut down the system.
- 2. Turn off the pneumatic air supply using the air control valve to reduce air pressure from the duct and duct clamp.
- 3. Use the cable counter or measure the cable to determine the location of the blockage.
- 4. Inform the supervisor of the problem and collaborate on a solution accordingly.

Drive Belts not feeding fiber cable

1. Assist the cable drum by pulling the cable towards the machine.

Difficulty Restarting Cable Installation after Air System Shutdown

1. The operation can be restarted after the air pressure has increased and stabilized.

Drive Belt Feeding System Not Starting

- Emergency stop may still be engaged. Reset the emergency stop by turning it counterclockwise after turning the regulator counterclockwise to zero and ensuring that the Easy Joystick Controller is in the STOP position.
- 2. Check the oil container.

11. Documentation and Recycling

Order Documentation

For documentation, user manuals, and technical information, contact your local distributor for assistance.

Disposal

Adhere to the regulations of your country regarding the recycling and disposal of the product.

12. EC Declaration of Conformity for the Machine

EC DECLARATION OF CONFORMITY OF THE MACHINERY

Original

Directive 2006/42/EC, Annex II 1A

Manufacturer (and where appropriate his authorised representative):

Company: Jetting AB

Address: Murgatan 1

522 35 TIDAHOLM

SWEDEN

Hereby declares that:

Type of machinery: Fibre blowing machine

No. of machinery: V2

Complies with the requirements of Machinery Directive 2006/42/EC.

Complies also with applicable requirements of the following EC directives:

2014/30/EU, EMC

The following harmonized standards have been applied:

EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction EN 60204-1:2018 Safety of machinery - Electrical equipment of machines - Part 1: General requirements

The following other standards and specifications have been applied:

Authorized to compile the technical file:

Name: Håkan Johansson

Address: Murgatan 1, 522 35 TIDAHOLM

Signature:

Place and date: Tidaholm 2024-02-05

Signature: ted josefsson

13. Warranty Information

Warranty Period

This product is covered by a warranty for 12 months from the date of purchase. A valid receipt must be presented to claim the warranty.

Warranty Conditions

Damage and defects, which have occurred by improper use, unauthorized modifications or unauthorized repairs, are not covered by the warranty.

Items Not Included in the Warranty

The warranty does not cover normal wear and tear, including but not limited to:

- Drive belts
- Cable guides
- Drive wheels
- Duct clamps
- Sealings
- Accessories

Motor Maintenance Requirements

Regular lubrication of motors is required to maintain warranty coverage.

See 7.10. Motor Lubrication for machines not in use.