



# SS250 - VAPOUR BLASTER GLOBAL OPERATIONS MANUAL

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## INTRODUCTION

Welcome to the Glendevon Marine vapour blasting unit, SS250

Vapour blasting has been around for many years, but the machines currently being used can be problematic in their operation and unreliable with high maintenance requirements, the SS250 offers the lowest cost, highest production rates, and easiest operation, along with reliability, this has been achieved through years of development on each part of the system.

The Glendevon Marine vapour blasting machine is completely self-contained in a stainless-steel crash frame fitted with roller casters which makes handling safe and easy,

There are many important advantages to vapour blasting compared to conventional dry blasting,

- . Safer, low-pressure blasting with wash and rinse capabilities.
- . Dustless, so containment is easy, and a low volume of the waste product is easily contained in a local work area.
- . Uses direct wet-media injection compared to media or water injection.
- . Corrze 100 can be added to the inbuilt 50-gallon water tank to negate flashing rusting on the newly blasted substrate for an extended duration.
- . Humidity or rain will not affect operations.

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## TECHNICAL SPECIFICATIONS

### Features

61lt custom blast pot

Stainless steel frame and blast pot

Emergency Stop switch

Direct injection wash-down feature with a near-instant response.

Pinch-to-rinse wash-down logic reduces wear on blast hose and valve wear.

Heavy-duty pinch valve (Patent Pending)

### Structure

Heavy-duty structure steel skid with 6.5mm wall thickness square and rectangular tubing

Stainless Steel water tank straps

### Dimensions

600mm wide, 1200mm long, 965mm high,

### Weight

181kg Dry Tare Weight

544kg Operational Weight

**MAJOR COMPONENTS**

1. Hopper fill valve
2. Blast pump valve
3. Grit control valve
4. utility hose valve
5. Hopper
6. emergency stop
7. Hopper Pressure Gauge
8. Blast air pressure gauge
9. hogger hose connection
10. Deadman Connections
- 11.Hopper dump valve



- A. Main Air Valve
- B. Vaporiser
- C. Blast pump regulator
- D. Pump lubricator
- E. Pinch valve
- F. Pinch hose
- G. Main blast pump
- H. Fill pump
- I. Grit supply valve



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## SAFETY, COMPLIANCE & REGULATORY

Failure to operate this machine appropriately and according to its intended purposes may result in catastrophic damage to the machine and possible severe personal injury or death. The machine should only be operated by qualified, authorized, trained personnel. Any warranty policy is null and void if anyone except for properly authorized operator(s) use, maintain, or operate this equipment

It is intended that this equipment be operated in accordance with its intended use and only by users knowledgeable in the operation of abrasive blast machines or equipment

It is the total responsibility of the owner to ensure the user/operator and any and all associates assisting

with this equipment can read and properly understand *all* warnings and operating instructions to operate this equipment safely and properly.

The performance and operation of this machine will vary depending on how it is combined with ancillary equipment, surrounding conditions, media type and grade used, user's proficiency in operating abrasive blasting equipment, user experience, condition of the machine, and accessories, etc.

Glendevon Marine UK Ltd makes no representation of the suitability, production rates, finish quality, cleanliness, efficiency, or performance of the machine. Individual results will vary depending on the experience, skill level, work rates, work ethics, or other traits of the user/operator. This manual should not be used to estimate production rates or expected finish quality which shall remain the responsibility of the user/operator(s).

Glendevon Marine UK Ltd makes no representation as to the safety hazards associated with abrasive blasting. It is the responsibility of the employer and user(s) to comply with ALL laws, regulations, restrictions, and practices which apply to abrasive blasting and associated products.

ONLY Glendevon Marine UK Ltd approved parts must be used when repairing or maintaining the Glendevon Marine machine. user modification or alteration of or substitution for Glendevon Marine UK Ltd original parts are not allowed and are in violation of Glendevon Marine systems,



## Test Report

Report No; 22-0103-CP

Directive; Machinery 2006/42/EC Annex I clause 1.5.8.

Test Conducted; Noise Test

A noise test was conducted taking readings on all four sides at a height of 1.4 meters and a distance of 1 meter away from the edge of the Vapour Blaster unit

In all cases the highest A-weighted sound power level emitted by the equipment was 79 dBA Accuracy  $\pm 1.5$  dBA

A noise test was conducted taking readings at a height of 1.4 meters and a distance of 1 meter away from the operator

In all cases the highest A-weighted sound power level emitted by the equipment was 111.4 dBA Accuracy  $\pm 1.5$  dBA

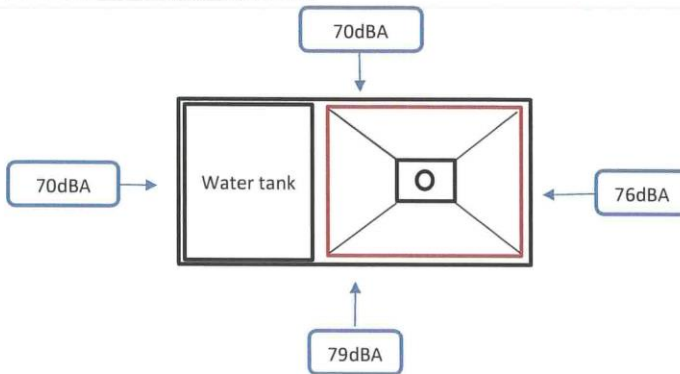
Therefore, the instruction manual should show that the maximum noise level is 107 dBA

Instruments used; Sound level meter S/N: 202006467



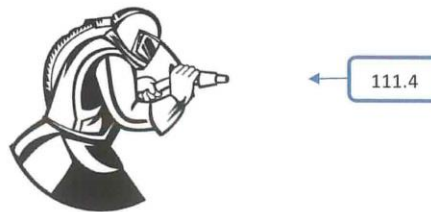
Test 1

Noise test of the Vapour Blaster unit



Test 2











Noise test at operator position












For and on Behalf of The CE Marking Authority

Chris Pickup  
Principal Engineer



	<p><b>Important Safety Instructions</b> Read all warnings and instructions in this and all related manuals. Save these instructions.</p>
 	<p><b>SPECIAL CONDITIONS FOR SAFE USE</b></p> <ul style="list-style-type: none"> <li>• <b>Ground all equipment in the work area.</b> <ol style="list-style-type: none"> <li>a. The Vapour Blaster Unit metallic parts should be earth have good contact to earth and resistance to it of less than 1MΩ before use</li> <li>b. The Vapour Blaster hoses should be checked before use and have good contact to earth and resistance to it of less than 1MΩ before use</li> </ol> </li> </ul> <p>The equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. Grounding provides an escape wire for the electric current.</p>
  	<p><b>DUST AND DEBRIS HAZARD</b> Use of this equipment can result in the release of potentially harmful dust or toxic substances from the abrasive being used, the coatings being removed, and the base object being blasted.</p> <ul style="list-style-type: none"> <li>• Use equipment only in a well-ventilated area.</li> <li>• Wear a properly fit-tested and government approved respirator suitable for the dust conditions.</li> <li>• Follow local ordinances and/or regulations for disposal of toxic substances and debris.</li> </ul>
 	<p><b>PRESSURIZED EQUIPMENT HAZARD</b> Fluid from the equipment, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> <li>• Tighten all fluid connections before operating the equipment.</li> <li>• Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.</li> <li>• End-user to ensure a safe working practice on pressure equipment is in place before use in line with local government requirements</li> <li>• Depressurize this machine before loading abrasive or performing maintenance do not perform maintenance on any pressurized equipment while operational or under pressure</li> </ul>
 	<p><b>EQUIPMENT MISUSE HAZARD</b> <b>Misuse can cause death or serious injury.</b></p> <ul style="list-style-type: none"> <li>• Ensure operators are fit to use equipment, do not operate when tired, fatigued, or under influence of alcohol, drugs or medication.</li> <li>• Do not operate this equipment within parameters for working pressure. do not operate equipment at pressures above stated maximum working pressure.</li> <li>• Do not use this equipment without hose restraints and coupler pins installed on all air and blast hose couplings.</li> <li>• Do not blast unstable objects. Ensure objects to be blasted are properly secured. blasting can cause unsecured objects to shift or move, negatively impacting safety and end results.</li> <li>• Do not exceed load rating of lift eyes.</li> <li>• Do not operate equipment on or stand on an unstable support. Keep effective footing and balance at all times.</li> <li>• When using Corr-Ze 100 Read Technical Specifications Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer.</li> <li>• Do not leave the work area while equipment is energized or under pressure.</li> <li>• Make sure all valves, switches, handles, etc. are in the "OFF position when the machine is unattended or stored for any period of time.</li> </ul>

	<ul style="list-style-type: none"> <li>• Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.</li> <li>• Do not alter or modify equipment. Alterations or modifications will void agency approvals and could create a potential safety hazards.</li> <li>• Make sure all equipment is rated and approved for the environment in which you are using it.</li> <li>• Use equipment only for its intended purpose.</li> <li>• Blast operators <b>MUST</b> be properly trained to operate this equipment.</li> <li>• Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.</li> <li>• Do not kink or over bend hoses or use hoses to pull equipment.</li> <li>• Keep children and animals away from work area.</li> <li>• Comply with all applicable safety regulations.</li> </ul>
	<p><b>PERSONAL PROTECTIVE EQUIPMENT</b></p> <p>Wear appropriate protective equipment when in the work area to help prevent serious injury, including; eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:</p> <ul style="list-style-type: none"> <li>• Protective eyewear, and hearing protection.</li> <li>• Protective clothing, shoes, and gloves.</li> <li>• Properly fit-tested and government approved respirator suitable for the dust conditions.</li> </ul>
	<p><b>RECOIL HAZARD</b></p> <p>Note when using a blast nozzle that can recoil take care when you trigger the recoil button. If you are not standing securely, you could fall and be seriously injured.</p>
	<p>Damage to the tubing connections on the blast control can occur if the blast circuit is allowed to rotate. To avoid damage, use a wrench to hold the blast circuit inside the enclosure while installing threaded fittings to the blast circuit connections.</p>
	<p>Do not use a wrench when installing the nozzle. Damage to the seal could occur. To avoid seal damage, always hand-tighten the nozzle.</p>
	<p>The Vapor blaster must be winterized whenever there is a possibility of freezing temperatures during storage to avoid damage to the equipment.</p>
	<p>Create a "Safe Zone" around your work area to designate your work environment. Place approved warning signs in and around the work zone where needed to alert to the possible dangers that may lie ahead.</p>
	<p>Ensure the blast nozzle is positioned so that it is not facing any person yourself or other personnel</p>
	<p>Maintain labels and instructional materials. do not remove or cover or obstruct or discard any warning labels.</p>
	<p>If a diesel, gas, propane, electric, or another type of air compressor is used to run this machine, the operator must adhere to the safety &amp; operating instructions for the compressor or other devices.</p>

Glendevon Marine UK Ltd  
 4 West Craibstone Street,  
 (Bon-Accord Square),  
 Aberdeen, Aberdeenshire,  
 United Kingdom, AB11 6YL

Blast Air Pressure 9.3 Bar (135 psi) max  
 Supply Air Pressure 10.3 Bar (150 psi) max



**Ex h IIB T6 Gb Tamb -12°C to+60°C**  
**Ex h IIB T5 Gb Tamb-12°C to+60°C**

Type;	Vapour Blaster Unit, SS250
Serial	5474-5475-5476-5477-5478-5479-5480-
Number;	5481/5482/5483/5484/5485/5486/5487/5488/5489/5490/5491/5492/5493/5494/549 6/5497/5498/5499/2401/2402/2403/2404/2405/2406/2407 2408/2409/2410/2411/2412/2413/2414/2415/2416/2417/2418/2419/2420
Technical file number ;	EXVP000026 EXVP000085
Year of manufacture;	2022/2023/24



## EU Declaration of Conformity

In accordance with of UK Decision No 768/2008/EC Annex III

1. *Product model/product:*

Product Vapour Blaster Unit  
Model/type SG250SS  
Batch/serial no. 5474-5475-5476-5477-5478-5479-5480-5481-5482-5483-5484-5485-5486-5487-5488-5489-5490-5491-5492-5493-5494-5495-5496=5497-5498-5499-2401-2402/2403/2404/2405/2406/24072408/2409/2410/2411/2412/2413/2414/2415/2416/2417/2418/2419/2420

2. *Manufacturing Site*

Name Glendevon Marine UK Ltd  
Address Unit 22 broad street Peterhead  
*Manufacturer Business*  
Name Glendevon Marine UK Ltd  
Address 4 West Craibstone Street, (Bon-Accord Square), Aberdeen, AB11 6YL

3. *This declaration is issued under the sole responsibility of the manufacturer.*

4. *Object of the declaration:*

Product Vapour Blaster Unit

5. *The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:*

2006/42/EC The Machinery Directive  
2014/34/EU The ATEX Directive

6. *References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:*

Reference & Date	Title
BS EN 80079-36:2016	Explosive atmospheres. Non-electrical equipment for explosive atmospheres. Basic method and requirements
BS EN 80079-37:2016	Explosive atmospheres. Non-electrical equipment for explosive atmospheres. Non-electrical type of protection constructional safety "c", control of ignition sources "b", liquid immersion "k"
BS EN 1127:2019	Explosive atmospheres. Explosion prevention and protection. Basic concepts and methodology

7. Hazardous Area Markings

UK CA CE Ex II 2 G  
Ex h IIB T6 Gb Tamb -12°C to +60°C  
Ex h IIB T5 Gb Tamb -12°C to +60°C

8. Signed for and on behalf of:

Glendevon Marine UK Ltd

Place of issue:

4 West Craibstone Street, (Bon-Accord Square), Aberdeen, AB11 6YL

Date of issue:

6-8-2021

Name: Mike Arnell  
Function: Managing Director



## UK Declaration of Conformity

In accordance with of UK Decision No 768/2008/EC Annex III

7. *Product model/product:*

Product: Vapour Blaster Unit  
Model/type: SG250SS  
Batch/serial no.: 5474-5475-5476-5477-5478-5479-5480-5481-5482-5483-5484-5485-5486-5487-5488-5489-5490-5491-5492-5493-5494-5495-5496-5497-5498-5499-2401/2402/2403/2404/2405/2406/2407408/24092410

8. *Manufacturing Site*

Name: Glendevon Marine UK Ltd  
Address: Unit 22 Broad Street Peterhead  
*Manufacturer Business*  
Name: Glendevon Marine UK Ltd  
Address: 4 West Craibstone Street, (Bon-Accord Square), Aberdeen, AB11 6YL

9. *This declaration is issued under the sole responsibility of the manufacturer.*

10. *Object of the declaration:*

Product: Vapour Blaster Unit

11. *The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:*

SI 2008 No 1597: Supply of Machinery (Safety) Regulations 2008  
SI 2016 No 1107: The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016

12. *References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:*

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## OPERATING PROCEDURES

### CONNECT AIR SUPPLY

1. Attach debris-free supply hose to air compressor and **Air Supply Coupling** (4). Safety pins and whip checks must be included and properly installed.
2. Ensure the **Air Dump Valve** is closed.

**IMPORTANT:** *Always Purge the air supply hose of debris or foreign material with compressed air Before connecting the air hose to AIR SUPPLY COUPLING (4) to prevent possible serious damage to the machine.*

### CONNECT BLAST HOSE AND DEADMAN'S TUBING

3. Plug color-coded connectors on Deadman Control into **Deadman Connection Sockets** (10).
4. Connect Blast Hose to **Blast Hose Coupling** (9).

**IMPORTANT:** *in all ATEX Zone 1 areas locate a suitable earthing point at the work site and secure the earthing lead.*

### FILL WATER TANK

5. Add surface treatment Corrze 100 to the **Fresh Water Tank** (G) first.
6. Fill the **Fresh Water Tank** (G) with clean water.

### START AIR COMPRESSOR

7. Ensure supply air pressure is between 8 and 8.5 Bar (110-130 psi.)



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## FILL HOPPER

8. If **Hopper (1)** is dry:
  - i. Open **Fill Valve (1)** to turn on the **Fill Pump (N)**.
  - ii. Run **Fill Pump (N)** 30-60 sec. to fill **Hopper (5)** with water (Approx. 1/3<sup>rd</sup> full).
  - iii. Close **Fill Valve (1)**.
9. Add grit media via **Fill Tray**.
10. Open the **Utility Rinse Valve (4)** and rinse stray grit into **Hopper (5)**. Close **Utility Rinse Valve (4)**.
11. Open **Fill Valve (1)** to turn on **Fill Pump (N)** and top off **Hopper (5)** with water.
12. When the water reaches the **Fill Tray** pull up **Plunger**, the pot will be in the first stage of pressurisation at 40 psi

## PREPARE TO COMMENCE BLASTING

13. Switch on **Main Blast Pump (2)**
14. Open **Grit Control Valve (3)** - 2 Full turns.
15. Pull **Emergency Stop (6)**
16. Open **Grit Supply Valve**
17. Observe **Hopper Pressure Gauge (7)**. Hopper pressure should be greater than set blast pressure (8)

## COMMENCE BLASTING

- Use the **Grit Adjustment Dial (3)** to fine-tune grit flow.
- Squeeze **Deadman Control**.
- Begin blasting.

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## Power Rinse

1. Stop blasting.
  - Slide the Air Valve backward. (Away from blast nozzle)
  - Proceed to Rinse
  - When finished, slide the Air Valve forward. (Toward blast
2. nozzle)
  - Return to blasting.

**IMPORTANT:** Before moving Air Valve in either direction Deadman's handle must be fully disengaged to avoid damage to the machine and Risk of Injury.

## Power Dry

1. Turn off the Water Valve
2. Slide the Air Valve backward. (Away from blast nozzle)
3. Proceed to blow air and dry the surface.
4. Move the Air Valve forward (towards the blast nozzle).
5. Turn on Water Valve to resume blasting

## Refill Hopper

- Turn off Blast Pump.
- Open Hopper Dump Valve to safely depressurize Hopper.
- Add Blast media via Fill Tray.
- Turn on Fill Pump to top off Hopper until water reaches Fill Tray.
- Pull up Plunger
- Turn on Blast Pump; squeeze Deadman Control to return to blast.

## Shut Down

- Turn off Blast Pump.
- Turn off Fill Pump.
- Turn off Air Compressor.
- Open Hopper Dump Valve.

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### Hose, Nozzle, and Air Compressor Configuration

VERY IMPORTANT!

For best results and to ensure proper operation:

Always select a compressor with 30-50% more continuous CFM than required at the nozzle.

ONLY use a blast hose properly sized to suit nozzle requirements. for recommended configurations.

#### **1" ID Blast Hose 1 1/2" Air Supply Hose (minimum)**

#5 5/16" nozzle: 137 CFM (minimum) 185 CFM air compressor

#6 3/8" nozzle: 196 CFM (minimum) 250 CFM air compressor

#7 7/16" nozzle: 250CFM (minimum) 400 CFM air compressor

#### **1 1/4" ID Blast Hose 2" Air Supply Hose (minimum)**

#7 7/16" nozzle: 254 CFM (minimum) 375 CFM air compressor

#8 1/2" nozzle: 338 CFM (minimum) 450 CFM air compressor

### **Vertical blasting**

When blasting on a surface higher than the equipment, make sure that there is a length of blast hose on the ground equal to 10-20% of the height. The hose on the ground prevents unspent abrasive in the hose from backfilling the internal plumbing of the panel. For example: When blasting 50 feet (15 m) straight up, use at least 10 feet (3 m) of blast hose on the ground before the blast hose goes up to the blasting height

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## Decommissioning the SS250

### **OVERNIGHT**

It is not necessary to drain the machine for overnight storage. It is recommended the Hopper be drained and cleaned out if it will be idle for more than 7 days

### **LONG-TERM**

Completely drain the abrasive from the hopper and flush thoroughly with clean fresh water until the hopper rinses clear.

Completely drain the freshwater supply tank and leave the drain valve open for storage.

### **WINTERIZATION**

Because water expands when it freezes, severe damage can occur if water remains in the machine during freezing weather conditions. It is imperative that the pump be “run dry” and emptied for proper freeze protection.

### **TO RUN PUMP DRY (REQUIRED FOR FREEZE PROTECTION)**

Close Water Supply Valve

Open Fill Valve

Switch on Main Blast Pump

Pumps will speed up when dry (5-10 seconds)

Close Fill Valve

Switch off Main Blast Pump

The Pumps are now dry.