



## USER MANUAL

### Grit-blasting machines with Remote control

**28 – 40 – 80 – 130 – 200 liter**



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## 1 Foreword

The Grit-blasting machine has been developed and manufactured according to the latest advances in technology. The machine therefore satisfies the applicable European Directives PED 2014-68-EU concerning Health and Safety and carries a CE mark.

**This user manual contains instructions for safe use and maintenance and repair of the equipment; these instructions should be followed.**



**Read this before using the Comet Blast machine.**

**Keep this manual safe for future use.**

**The manufacturer shall not be liable for hazardous situations, accidents and damage that result from the following:**

- The ignorance of warnings or prescriptions as appearing on the machine installation or in the user manuals.
- Insufficient maintenance.
- Use for applications other than those described in the user manuals.
- Changes to the installations/machine by third parties. This shall also include the use of spare parts other than those prescribed, and changing the control programme.

The General Terms and Conditions of delivery and payment of the Metaalnijverheid (SMECOMAVOORWAARDEN) (Terms and Conditions of the Metal Industry Association – SMECOMA ) filed with the Clerk of the District Court of Rotterdam under no. 5325. Chamber of Commerce and Industries Reg.no. 32044885.

## 2 Introduction


**Only use blasting media that has been strained and is specially intended for blasting; never use wet blasting material.**

Depending on the products to be blasted, the following grit-blasting materials may be used.

Metallic	Non-metallic
Wire shot	Aluminium oxide/corundum
Cast iron grit	Ecostrip
Steel grit	Excellent grit
Steel shot	Dolomite
	Glass beads
	Glass granules
	Hydro facade
	Ceramic beads
	Plastic blasting media
	Olivine
	RVS grit
	RVS shot
	Soft blast
	Speed blast/Garnet
	Stone powder

### 3 Technical Specifications

This type plate is fitted on the grit-blasting machine CS-28-40-80-130-200 litre

			
<b>CE 0038</b> Krimetal b.v. – Prinsenstraat 4 – 1402 AS Bussum – The Netherlands			
Herstell nummer manufacturers number no de fabrication		Herstellerzeichen mark of producer marque de prod.	<b>Krimetal B.V.</b>
Zulässiger Betriebsüberdruck perm. Working overpressure (bar) pression de service admissible	<b>12 Bar</b>	Rauminhalt capacity (ltr) volume	
Maximale Betriebstemperatur max. working temperature (C°) max. temperature de service	<b>-10/50</b>	Baujahr year of construct. année	
Baumusterkennzeichen type designation signé de modèle		Type type type	
Made in Holland			



**In general for all sizes grit-blasting machines 28 – 40 – 80 - 130 – 200 liter**

Maximum system pressure: **10 bar This may NEVER be exceed**  
 Minimum system pressure: 5 bar

Maximum compressed air temperature: 50° C  
 Minimum compressed air temperature: 5° C

Maximum ambient temperature: 50° C  
 Minimum ambient temperature: 5° C

## 3.1

### Air consumption

The air consumption is influenced by the following :

- the diameter of the nozzle
- the compressed air pressure

The size of the grit-blaster or the used hoses are of no influence.

#### Air consumption in m<sup>3</sup>/min.

	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
Ø 3 mm	0.08	0.17	0.25	0.33	0.42	0.50	0.58	0.66	0.75	0.83
Ø 4 mm	0.15	0.30	0.44	0.59	0.74	0.89	1.03	1.18	1.33	1.48
Ø 4.8 mm	0.21	0.43	0.64	0.85	1.06	1.28	1.49	1.70	1.91	2.13
Ø 5 mm	0.23	0.46	0.69	0.92	1.15	1.38	1.62	1.85	2.08	2.31
Ø 6 mm	0.33	0.66	1.00	1.33	1.66	1.99	2.33	2.66	2.99	3.32
Ø 6.4 mm	0.38	0.76	1.13	1.51	1.89	2.27	2.65	3.03	3.40	3.78
Ø 7 mm	0.45	0.90	1.36	1.81	2.26	2.71	3.17	3.62	4.07	4.52
Ø 8 mm	0.59	1.18	1.77	2.36	2.95	3.55	4.14	4.73	5.32	5.91
Ø 9 mm	0.75	1.50	2.24	2.99	3.74	4.49	5.23	5.98	6.73	7.48
Ø 9.5 mm	0.83	1.67	2.50	3.33	4.17	5.00	5.83	6.67	7.50	8.33
Ø 10 mm	0.92	1.85	2.77	3.69	4.62	5.54	6.46	7.39	8.31	9.23
Ø 11 mm	1.12	2.23	3.35	4.47	5.59	6.70	7.82	8.94	10.05	11.17
Ø 12 mm	1.33	2.66	3.99	5.32	6.65	7.98	9.31	10.64	11.96	13.29
Ø 12.5 mm	1.44	2.89	4.33	5.77	7.21	8.66	10.10	11.54	12.98	14.43
Ø 13 mm	1.56	3.12	4.68	6.24	7.80	9.36	10.92	12.48	14.04	15.60
Ø 16 mm	2.36	4.73	7.09	9.45	11.82	14.18	16.54	18.91	21.27	23.63
Ø 19 mm	3.33	6.67	10.00	13.33	16.66	20.00	23.33	26.66	30.00	33.33

## 4 Safety

### 4.1 Safety arrangements

According to the notified body, the grit-blasting machine has been manufactured as per the under Article 11 and 12 of the Pressure Equipment Directive 2014-68-EU and follows the respective procedures for the EC Type Testing for Pressure Equipment as specified below, and consequently conforms to the important applicable safety regulations of the Pressure Equipment Directive, and are subject to possible conditions mentioned in the attached test document.

### 4.2 Precautions

The following safety regulations should be taken into account to enable the safe use of the grit-blasting machine.

**Always follow local regulations for use of grit-blasting machines**

**Disposal of used blasting grit should be done according local regulations.**

- Use personal protection media:
- Clothing resistant to grit-blasting machine, safety shoes, leather gloves, listening protection,
- CE approved grit-blasting helmet.
- Air for the grit-blasting helmet must be provided by a compressor via helmet filter. If necessary,
- Safety ropes to prevent the danger of falling;



**Also provide protection for bystanders**

- Avoid dust;
- No grit-blasting should be done with defective or damaged material;
- Never point the nozzle at persons but only toward the surface to be blasted;
- During the inspection of the nozzle always ensure that the pressure of the grit-blasting machine is removed before starting the tests for the nozzle;
- Only use properly strained, dry grit-blasting material which is specifically intended for blasting.
- Keep persons without personal protection media outside the grit-blasting range.
- **Welding on the grit-blasting machine is prohibited the certificate will lapse if this is done.**

### Before grit-blasting:



**During grit-blasting, static electricity and sparks can occur; please check if you need any extra precautions.**

- Check the remote control arrangements.
  - Check the fitting and hoses for cracks;
  - Check the grit-blasting helmets and the air supply.
  - Check the safety pins on the grit-blasting couplings.
  - Ensure that the popup is moving freely and goes up vertically.
  
- Never place the grit-blasting machine on a sloping surface.
- Before starting the work, check the installation for leakages.
- All safety arrangements must be intact and should be regularly checked for proper working. (deadman handle);
- For replacements only use COMET components.
- For maintenance and repairs, the grit-blasting machine has to be made pressure free before work is commenced.

### 4.3 Residual risks

The manufacturer would like to point out the following risks of the grit-blasting machine:

1. The risk of coming into contact with the grit-blasting medium under pressure cannot be ruled out and therefore caution is always recommended.
  
2. Danger of tilting. If the grit-blasting machine is shifted, the danger of tilting should be kept in mind.

Both risks are regarded by the manufacturer as residual risks. If however, the personnel are well trained and have the correct attitude toward safe working, safe operation of the machine will always be possible.



## 5 Description of the grit-blasting machine

The grit-blasting machine is intended for cleaning metallic and non metallic surfaces or components.

The grit-blasting machine consists of the following:

- Pressure vessel
- Inspection hatch
- Manual or pneumatic blasting material valve
- Manual or pneumatic remote operation

Accessories such as: blasting hose, nozzle (holder), safety coupling, strainer, cover.

The grit-blasting machine can only be started through air supply provided over an external compressor.

**Air supply pressure may never exceed 10 Bar**

## 6 Preparation / settings

The commissioning of the manual grit-blasting machine (**remotely controlled**) may be done as follows:

### 6.1 Preparation

- Ensure that the compressor does not intake air from the location to be grit-blasted.
- Start the compressor and achieve the required working pressure and temperature (5 to 10 min). **Only use compressors that do not exceed the maximum permissible pressure of the grit-blasting machine!**
- Ensure that dry and cooled air is always used (in view of the after cooler).
- Connect the air supply hose to the safety coupling intended for the same (no;17a).



- Connect the grit-blasting hose to the machine using the safety couplings. (no;17b)



- **Ensure that the safety catches are fixed and that the rubber seals are properly placed (air leakage is dangerous and reduces efficiency).** Ensure that all personal protection media are worn and all safety aspects are duly kept in mind.
- Connect the remote control hoses to the right couplings on the machine

**The RED hose to Y**  
**The BLUE hose to R**



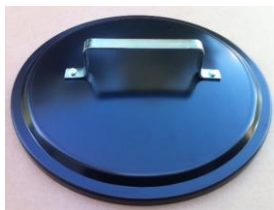
- Ensure that all personal protection media are worn and all safety aspects are duly kept in mind.

## 6.2 Settings

- Ensure that the manually operated grit-blasting valve is closed.  
(The handle must be in left or right off the centre of the grit-valve DSF-75 valve).  
(Turn the button in the clockwise direction to close the DSF-75 valve)  
((Turn the knob clockwise to close the DSS valve)



- Add the appropriate dry grit-blasting medium to the machine through the opening provided for the same. (use strainer no;2)
- In order to ensure that the grit-blasting medium remains dry, use a cover. (Optional)

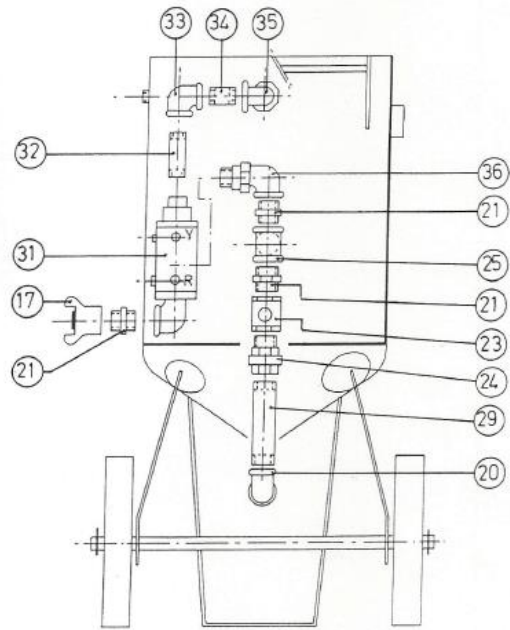
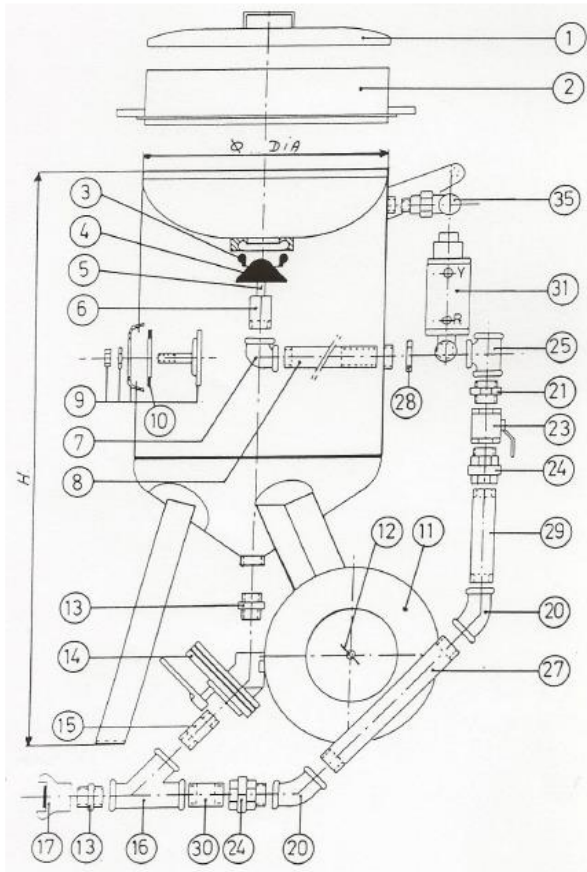


- Make sure there are no obstacles between the popup (4) and the ring (3) you can use screen (optional)



*Carefully apply pressure to the air supply inlet of the grit-blasting machine (by opening no:23).*

**The Grit-blasting machine is now ready for operation.**



## 7 Commissioning

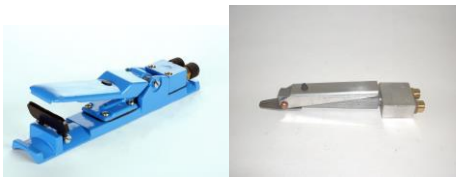
### 7.1 Commisioning

When the blaster is ready for blasting, a signal will be given to the grit-blasting machine operator.

Point the nozzle to the target surface and hold the hose and nozzle holder tight.

The mechanic can be started by pushing on the remote control handle, Situated on the blasting hose close to the nozzle.

Underneath a few examples of remote control handles:



Compressed air will blast out of the nozzle.

Open the DSF-75 grit-valve in order to obtain the appropriate the air/grit ratio. A mixture of air and grit will now come out of the spraying nozzle. Fundamental principle: use as little spraying material as possible.



**To much grit will reduce the airflow and will slow down productionspeed.**

**For the best result, keep the nozzle in an angle with the target surface.**

## 7.2 Stopping spraying

- Release the remote control lever, the grit-blaster will now blow off air pressure.
- Check if the Popup (4) will lower .

**In case of an emergency,**

**Open the STOP valve**

**The grit-blaster will release pressure and stop working.**

**Make sure the remote control lever is released before closing the STOP valve again to avoid the grit-blaster to start working instantly.**



## 7.3 Conclusion of work.

**When work is completed, it shall be necessary to do the following:**

Close the grit valve, wait until only air comes out of the spraying nozzle (this is in case the spraying hose gets stopped up.)

Cover the machine to protect it against moisture (cover no;1); this will prevent starting up problems in the grit-blasting operation that follows.

If the grit-blasting machine is not in use for more than one day, it is advisable to empty it fully. (since otherwise lumps may form in the grit.)

Store the grit-blaster in a dry place.



Remove all grit before transporting the grit-blaster.

Never move the grit-blaster with all hoses connected.

Always keep the wheel pointed downwards when lifting the grit-blaster. Use the attached lifting eyes when lifting the gritblaster.

## 7.4 Ensuring safety

**When using the grit-blasting machine, you may proceed as follows:**

1. Always ensure that good personal protection media are available.



2. Select the position of the surface to be blasted, keeping in mind the force generated by the blasting hose.
3. Direct the hose at the surface to be blasted.

**Always ensure that you and the people with you are outside the range of the grit-blasting medium.**

## 8 Maintenance

### 8.1 Replacing the pop-up valve.

Remove the inspection door (9) and the seals (10) of the vessel, in order to access the pop-up(4).

Unscrew the guide (6) in which the pop-up is located.

Remove the guide and the pop-up itself from the vessel.

Place a new pop-up in the guide and replace it in the machine.

It is recommended to simultaneously place the inspection door and the seal back into the machine for the inspection – this will make assembly easier.

Ensure that the instruction hole is tightened appropriately in order to prevent leakages when the machine is started.

### 8.2 Replacing the pop-up ring.

Try to pull the pop-up ring slowly out of it seat via the top.

When replacing the pop-up ring, place it in halfway in the seat from the top and then slowly pull in the remaining part.

## 9. Faults, Repairs

**In case of faults and repairs on the grit-blasting machine, the pressure of the grit-blasting machine should always be removed.**

The following table shows the problems that generally occur.

Problem	Cause	Solution
<b>No air comes out of the nozzle.</b>	<ul style="list-style-type: none"> <li>The air valve of the compressor is closed.</li> <li>Air valve (23-23a) is closed.</li> <li>The blow-off valve (19) is open.</li> </ul>	<ul style="list-style-type: none"> <li>Open the air valve of the compressor.</li> <li>Open the air valve (23-23a).</li> <li>Close the blow-off valve (19).</li> </ul>
<b>Grit-blasting material does not come out of the nozzle.</b>	<ul style="list-style-type: none"> <li>No grit-blasting material present.</li> <li>Grit valve closed</li> <li>Blasting hose stopped up</li> <li>Nozzle is stopped up.</li> <li>Air valve (23a) is closed.</li> </ul>	<ul style="list-style-type: none"> <li>Fill-in grit-blasting medium.</li> <li>Open the grit valve.</li> <li>Blast through or empty the same.</li> <li>Dismantle and clean.</li> <li>Open the air valve.</li> </ul>
<b>Irregular spraying pattern.</b>	<ul style="list-style-type: none"> <li>The grit valve has not been correctly set.</li> <li>Wet grit-blasting medium is blocking the bottom of the spraying vessel.</li> <li>Lump formation.</li> </ul>	<ul style="list-style-type: none"> <li>Correctly adjust the grit valve.</li> <li>Open inspection door (9) and clean the spraying vessel.</li> <li>Open the inspection hatch grit valve and clean out.</li> </ul>
<b>Excessive grit-blasting material comes out of the nozzle.</b>	<ul style="list-style-type: none"> <li>Grit valve opened excessively.</li> <li>Air valve (23a) not opened sufficiently.</li> </ul>	<ul style="list-style-type: none"> <li>Control of grit supply.</li> <li>Open air valve (23a).</li> </ul>
<b>Pop-up valve does not close.</b>	<ul style="list-style-type: none"> <li>Too little pressure.</li> <li>Pop-up ring (3) defective.</li> <li>Pop-up valve (4) defective.</li> </ul>	<ul style="list-style-type: none"> <li>Check working pressure.</li> <li>Replace pop-up ring (3).</li> <li>Replace pop-up valve. (4)</li> </ul>

In case of doubt, always contact the dealer from whom the grit-blasting machine was purchased.

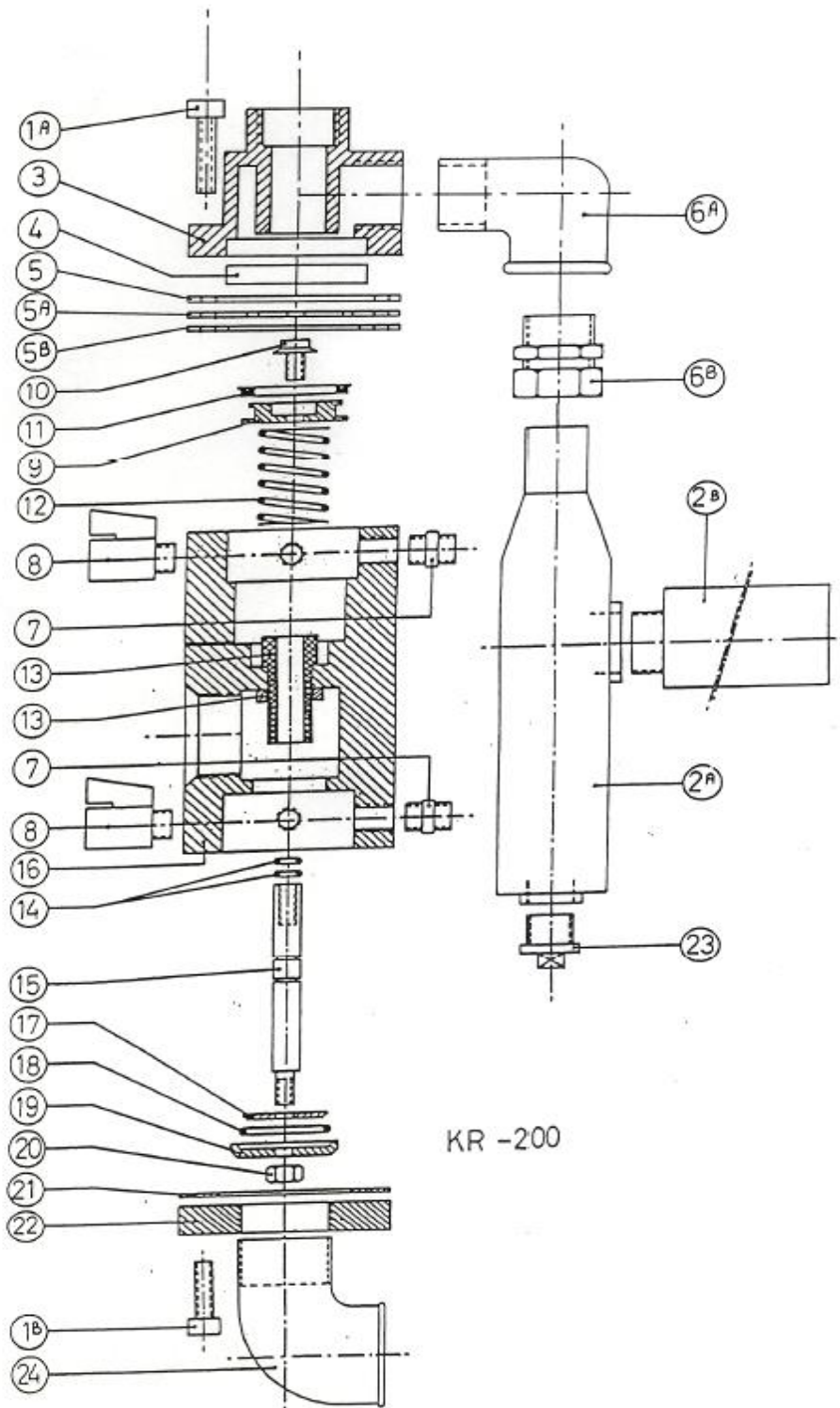


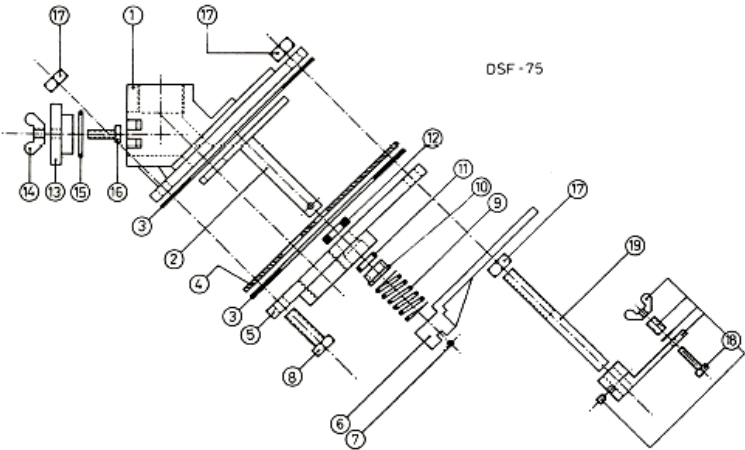
## 9 Dismantling /removal.

The local Environment Protection regulations should be duly followed (separate disposal of environmentally harmful substances).

## 10 Foto's / tekeningen







## EU Declaration of Conformity

The object of the declaration described below is in conformity with the **PED 2014/68/EU** and the relevant Union harmonisation legislation.



## EU Konformitätserklärung

Der Gegenstand der Erklärung weiter unten beschrieben ist in Übereinstimmung mit der **PED 2014/68/EU** und den einschlägigen Rechtsvorschriften der Union zur Harmonisierung.

## UE Déclaration de Conformité

L'objet de la déclaration décrit ci-dessous est en conformité avec la de l'Union sur l'harmonisation.

**PED 2014/68/UE** et de la législation.

Description / Beschreibung / Description

Date of test / Testdatum / Date d'essai

Serial no: / Serie no: / N ° de série:

Capacity of vessel / Kapazität der Behälters / Capacité du réservoir

Diameter of cylindrical shell / Durchmesser zylindrischer Mantel / Diamètre de la paroi cylindrique

Length / Länge / Longueur

Thickness of shell and end plate / Dicke des Mantels und Endplatte / Épaisseur de la paroi et de la plaque de fond

Maximum working Pressure / Maximaler Betriebsdruck / Pression de service maximale

Working temperature / Betriebstemperatur / Température de service

Conformity assessment procedure / Konformitätsbewertungsverfahren / Procédure d'évaluation de la conformité

Lloyd's Register Verification Ltd. - Nobo 0038

EC type-examination certificate / EG-

Baumusterprüfbescheinigung / certificat d'examen «CE de type»

EU certificate of Conformity / EU Konformitätsbescheinigung / UE Certificat de Conformité

Serial no: Appendage / Serie no: Anhängsel / N ° de série: Appendage

Conformity assessment carried out by notified body/ Konformitätsbewertung vorgenommen durch notifizierte Stelle/ Évaluation de la conformité effectuée par l'organisme notifié.

Relevant harmonized standards or references to other technical specifications used

Einschlägigen harmonisierten Normen oder sonstigen technischen Spezifikationen die zugrunde gelegt wurden

Normes harmonisées pertinentes ou des autres spécifications techniques appliquées

Signed on behalf of

Unterzeichnet im Namen von

Signé au nom de

**Blast machine / Strahlmaschine / Grenailleuse**

**8 december 2016**

**K-0000**

**200 Liter**

**600 mm**

**710 mm**

**5 mm**

**12 bar**

**-10 / 50 °C**

**B**

**PED/B/9005019**

**0038/PED/RQA/659474**

**0038/PED/RQA/664877**

**102003**

**Appendage KRI-PED-2013-1**

**Lloyd's Register Verification Limited**

**71 Fenchurch Street London EC3M 4BS UK**

Rules for pressure vessel (RToD) 05-09

Regeln für Druckbehälter (RToD) 05-09

Règles pour les navires de pression (RToD) 05-09

Metaalindustrie Krimetal bv

Constant F.G. Labrie

General Manager

Date / datum / Date

**20-12-16**

KRI Rev 01

Bussum