







Snow Blower    **S-220-1**  
                         **S-220-3**

 <b>Fransgård</b>	
Fredbjergvej 132, Denmark-9640 Farsø. <a href="http://www.fransgard.dk">www.fransgard.dk</a>	
<b>Model</b>	<b>S-220-1</b>
<b>Kg.</b>	<b>560</b>
<b>KW</b>	<b>35</b>
<b>Serie nr.</b>	
 Made in Denmark	
	

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<b>Model</b>	<b>S-220-3</b>
<b>Kg.</b>	<b>570</b>
<b>KW</b>	<b>35</b>
<b>Serie nr.</b>	
 Made in Denmark	
	

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## **Technical data**

Width .....	approx. 2200 mm.
Length .....	approx. 1250 mm.
Impeller diameter .....	650 mm.
Number of blades on impeller .....	4
Auger diameter .....	350 mm.
Throw length .....	10-30 metres.
Angle of rotation for chute .....	360 degrees.
Weight .....	approx. 560 kg.
Power requirement .....	approx. 50 HP.
Capacity .....	8/10 m/min.
PTO revolutions .....	max. 540 rpm.
Three-point hitch .....	Cat. 2.

## **Introduction**

Fransgård machines have been developed for the professional user who values high capacity and reliability and wants to perform the task easily and efficiently.

Fransgård snow blowers are only intended for use as follows:

The removal of snow from roads and public spaces – they must therefore only be used for this purpose. If the user is interested in using them for other purposes, they should contact Fransgård Maskinfabrik A/S.

It is assumed that the work will be performed under suitable conditions, including that the roads have been cleared of foreign objects etc., to an appropriate degree.

Proper use of the machine also entails that you comply with the factory's preparation, operation and maintenance instructions and that you contact an approved workshop where necessary.

## **General information about the machine**

Shut down the tractor engine and remove the ignition key before touching the machine.

Always remember to shut down the tractor engine before lubricating, adjusting, maintaining or repairing the machine. You should also remove the ignition key so that you can be sure no one will restart the tractor before you have finished.

### **Remember:**

Never let anyone go underneath the machine once it has been hitched to the tractor.

### **Children:**

Never let children near the machine while working. Small children in particular have a habit of doing the unexpected.

**Under no circumstances allow anyone to approach the machine or stand in its vicinity while in operation.**

### **Risk of crushing on hitch-up:**

No one should be permitted to stand between the tractor and machine once the latter has been hitched to the tractor. An uncontrolled manoeuvre can lead to the person in question being crushed. An operating error can also result in serious personal injury.

### **Maximum of 175 bar:**

Make sure the hydraulic components are not subject to pressures in excess of 175 bar, as they otherwise risk terminal damage from explosive pressure build-up. You would then be subjecting both yourself and others to a serious risk of being hit by metal parts travelling at high speeds, or by hot oil being expelled under high pressure.

## **Tractor requirements**

The tractor driver should use ear defenders if full closure of the cab is not possible.

In order to retain full control of the tractor in all conditions, at least 20% of the tractor's total weight must be distributed over the front axle.

Tractor specifications vary greatly between individual tractor makes and, for this reason, in the worst case scenario it may prove necessary to adjust the weight distribution using a couple of weights on the tractor's front-end.

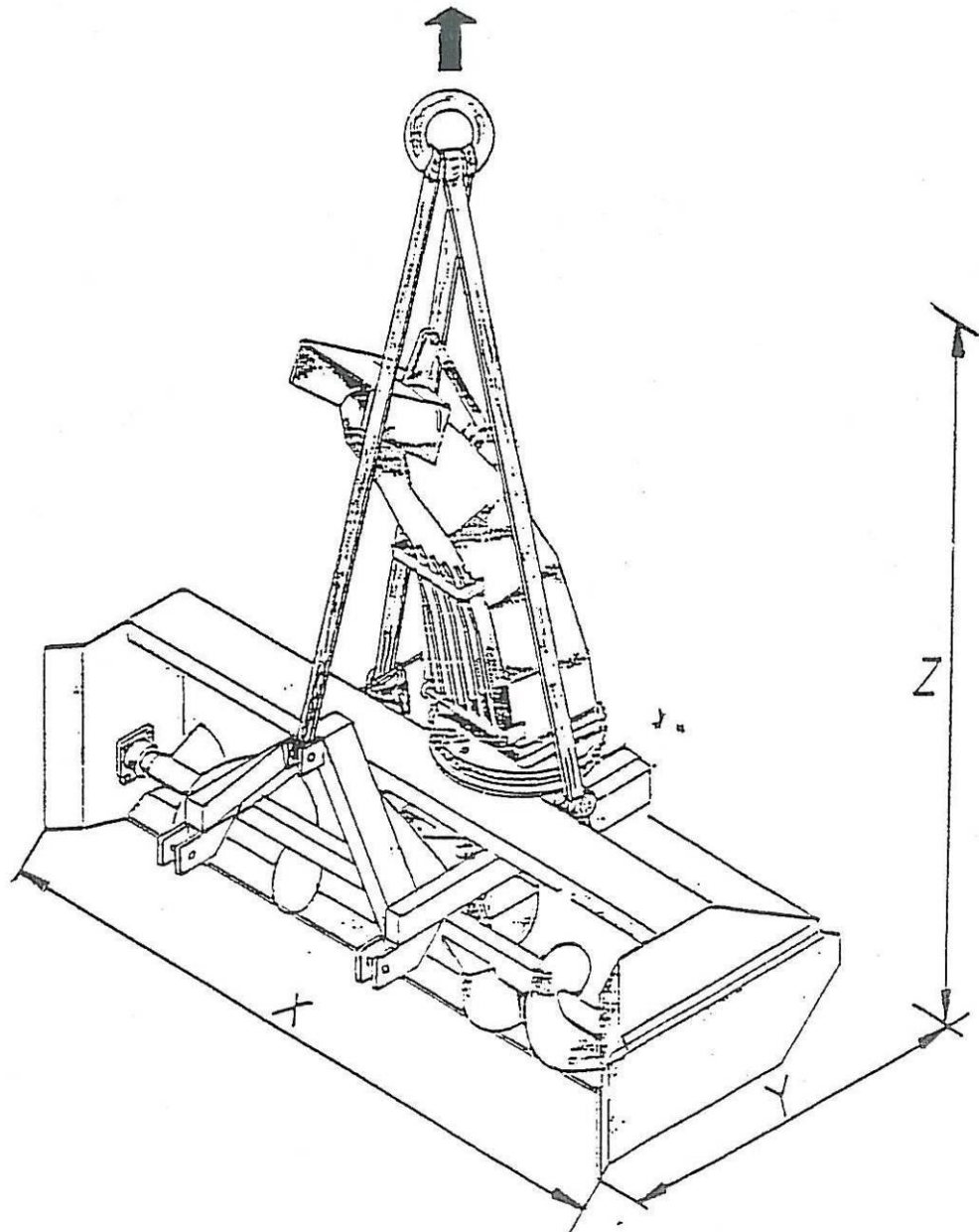
The power take-off of the tractor must turn at 540 rpm and the hitch linkage must be of Category 2.

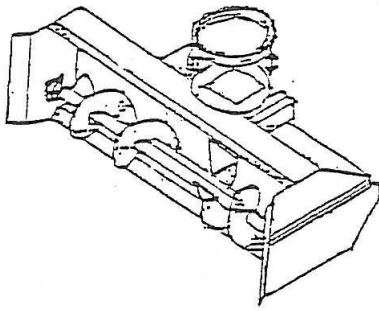
The tractor must be equipped with at least one double-acting hydraulic valve with a 1/2" female union, max. 175 bar.

## Transport

When moving the machine, this must only be performed as indicated in the drawing.

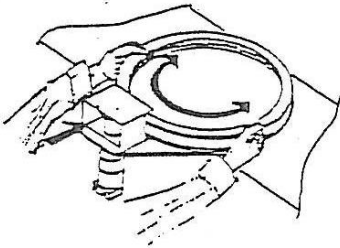
X	:	2200 mm
Y	:	2010 mm
Z	:	1250 mm
Weight	:	560 kg





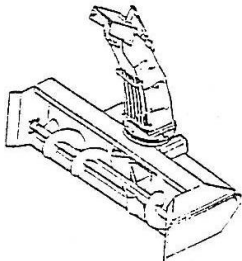
## Assembly

Fit the rotating collar to the frame.



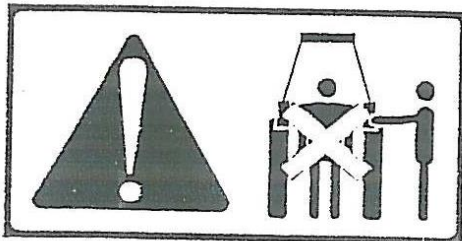
Fit the oil pump.

Adjust the oil pump so that it is as near to the rotating collar as possible. Then check that the rotating collar can be rotated by hand through 360 degrees unhindered.



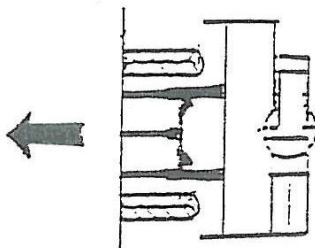
Fit the chute to the rotating collar.

It is important that these bolts are fully tightened and that they are routinely retightened at regular intervals.



## Hitching up the machine

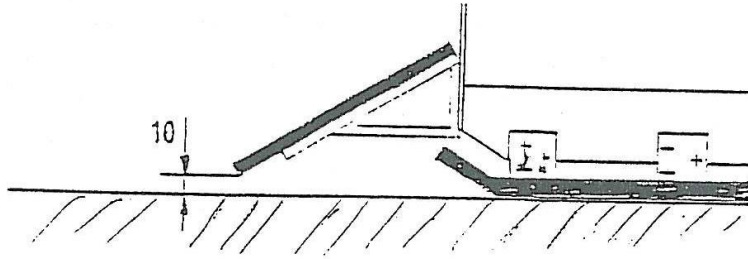
During hitching and unhitching, the tractor engine must be switched off. You should always make sure that there is no one between the tractor and machine during hitching or unhitching. An uncontrolled manoeuvre involving the tractor could lead to anyone in that area being crushed.



Slowly reverse the tractor up to the snow blower, shut down the tractor engine, and fit the tractor hitch linkage in the three-point frame and the top link in the three-point frame's top link fastening.



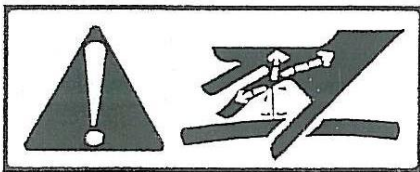
Set the top link so that the machine stands on its skid shoes and the points of the wear strips are approx. 10 mm from the ground.



Fit the hydraulic hoses in the tractor's hydraulic flow and return unions.

Before activating the hydraulic system, you should check that all hydraulic connections are tight and all hoses and fittings are undamaged. Once the tractor's engine has been shut down, you should also activate the hydraulic system to ensure no pressure remains in the hydraulic hoses.

Hydraulic oil under pressure can penetrate under the skin and cause serious inflammation. You should protect your skin and eyes at all times against oil spray. If an accident does occur, and you are exposed to hydraulic oil under pressure, you should consult a doctor immediately.



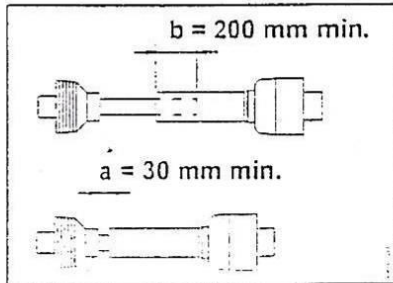
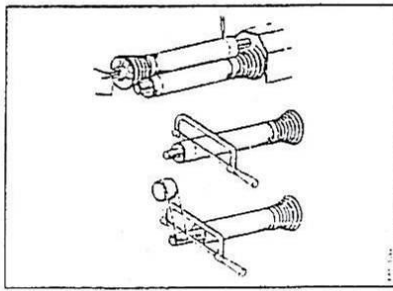
Fit the tractor's power take-off. Secure the safety chain to the snow blower.

NB! There must always be a shear bolt connection on the power take-off shaft, max. 3500 Nm. Use of a power take-off shaft that is not approved by Fransgård Maskinfabrik A/S will invalidate any claims under warranty.

No one should be near the machine during start-up, as there may be air in the hydraulic system resulting in possible sudden movements.

Remember: The protective guard on the power take-off shaft must not be fractured if work is being performed with the machine. If necessary, replace the protective guard.

When fitting the power take-off shaft, you must ensure the following has been attended to before using the machine:



- The shaft must be of a size and quality that will meet the approval requirements of Fransgård Maskinfabrik A/S; if necessary, contact your dealer/importer.
- Make sure the shaft's protective guard is intact and that the two shaft halves can slide together.
- The length of the power take-off shaft must be properly adjusted; a shaft that is too long will inflict terminal damage on the blower's gearbox. If you have cut the shaft, you must file down the ends of the steel tubes so that they can slide easily together without scraping. Remember the need for lubrication; for other tasks see the power take-off shaft instruction manual.
- Check that the power take-off shaft can be rotated by hand to ensure that it does not catch at any point.
- Check that the power take-off shaft does not become tensioned when the machine is moved to its maximum and minimum height settings. If the blower is mounted at the rear, make sure there is clearance between the ground and the snow blower when the tractor is being driven. Note that where the shaft is very short, the angle on the shaft may be too large. Contact your dealer/importer if this is the case.

**Unhitching is the hitching sequence in reverse.**

### ***Fitting additional equipment***

#### **Fitting side cutter:**

- Fit as indicated on the spare parts pages.

#### **Fitting hydraulic chute deflector control:**

- Fit as indicated on the spare parts pages.
- 1 double-acting valve set needed, fitted using a 1/2" female union.
- Remember to retighten the hydraulic components to prevent oil spills.

### **Fitting electric chute flap control:**

- Fit as indicated on the spare parts pages.
- Secure the mounting plates to the tractor cab in a central location and fit the control box to the plates.
- Insert the cable with its plug into the cigarette lighter or the fuse box, max. 12 V – 6 A. Run the cable to the electric cylinder from the tractor cab to the chute. Remember to make sure the chute can be freely rotated without trapping the cable.

### **Fitting long loading chute:**

- Fit as indicated on the spare parts pages.
- When fitting a long loading chute it is very important that the bolts are fully tightened. This must be checked regularly.
- It is important that you are fully aware of the actual height of the chute.

### **Fitting centre deflector:**

- Fit as indicated on the spare parts pages.
- A centre deflector can be fitted to all chutes allowing them to distribute the snow at the side of the blower.
- Chutes that have a centre deflector fitted can also be fitted with either electrical or hydraulic control of the chute deflector.

### **Fitting an oil pump:**

- Fit as indicated on the spare parts pages.
- Before the oil pump kit is fitted to your snow blower, it is important that you make sure that the technical specifications are in accordance with those required by Fransgård Maskinfabrik A/S. This applies for instance to oil flow rates (l/min) and oil pressures (bar); see technical data. Please note that power is slightly reduced when an oil pump is used.
- When fitting the bracket for the oil pump, it is important to ensure the coupling and the oil pump are both fully aligned with the gearbox shaft before drilling the holes. This is to avoid unnecessary wear.

## Starting up the machine

The snow blower is supplied ready for use from the factory, in other words fully lubricated and with the appropriate quantity of oil in the gearbox:

S-220-1: 2.2 litres

S-220-3: 3.2 litres

Type: TEXACO MEROPA 320 or  
MOBIL GEAR 632.

It is however important to check the tractor or implement carrier power take-off to ensure the power take-off rpm is in accordance with the snow blower specifications.

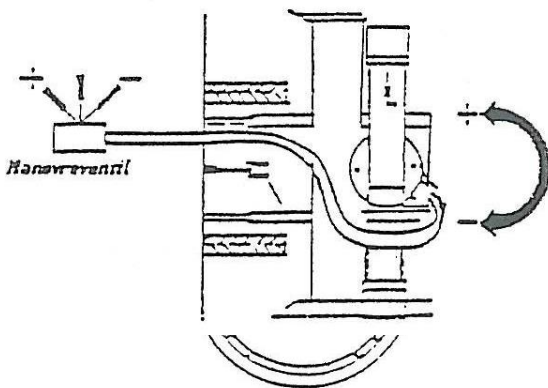
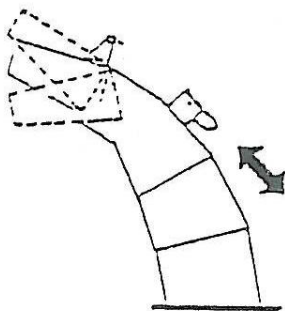
In addition, check that the snow blower's power take-off shaft is of the right length in relation to the tractor in question.

The rotational speed of the power take-off shaft on the tractor must be a maximum of 540 rpm.

The angle of the power take-off shaft must not exceed 15° on constant load.

Set the deflector on the chute manually to the desired setting.

Set the chute to the desired side using the control valve on the tractor.



Connect the tractor power take-off and set to 540 rpm.

The operating speed must be adjusted to the various conditions in terms of snow volume and/or type.

## Unhitching

After using the machine, unhitch it as follows:

### **REMEMBER:**

The tractor power take-off must always be disconnected when working near the machine and on the power take-off shaft.

- Position the machine on a level surface.
- Disconnect the hydraulic hoses.
- Disconnect the power take-off shaft and hang it on the hook.
- Pull out the hitch linkage.
- The machine is now unhitched and the tractor can be driven off.

## **Maintenance**

Warning: In any repair, maintenance or cleaning operations, your own personal safety is paramount at all times. You must therefore always park the tractor (if hitched) and the machine in accordance with the relevant safety regulations.

Important: Screws, nuts, nipples and bolts on your new machine must be retightened after two hours of operation. In addition, all moving parts must be lubricated with grease.

Change the oil in the gearbox after the first 50 hours of operation, and subsequently every 500 operating hours, at least once a year and prior to storage, as condensate can ruin the gearbox. If there is insufficient oil, this must be topped up with TEXACO MEROPA 320 or MOBIL GEAR 632, but care must be taken not to overfill, as this may ruin the gearbox.

When lubricating or carrying out maintenance, make sure the machine is in contact with the ground or supported on jacks.

Lubricate the grease nipples of the machine at regular intervals. Prior to connection, clean the hydraulic unions on both the tractor and snow blower using a clean cloth.

You should never try to clean, lubricate or adjust the machine before the tractor engine has been shut down and the parking brake engaged.

Frequent and thorough cleaning of the implements is recommended to extend machine service life.

After use, clean the machine of snow, as any frozen snow may otherwise cause problems on subsequent start-up.

**Remember:** Do not spray water directly on the bearings or bearing housings. If the machine is stored for longer periods, it should be sprayed with acid-free oil.

**At the end of the season, clean the machine and spray it with acid-free oil.**

## **Lubrication**

Grease: Before starting up the machine, you should always ensure it is well lubricated.

Grease type: High grade universal grease.

Lubricate moving mechanical linkages and joints with grease or oil, as required.

## **Storage**

Make sure the following tasks are attended to prior to storage:

Thoroughly clean the machine and apply acid-free oil throughout.

- ◆ Lubricate all grease nipples.
- ◆ Repair any paint damage.
- ◆ Park the machine in a horizontal position; the implements should not be on an incline.
- ◆ Park the machine somewhere dry; shelter it from the elements and wind.

## Safety

As stated, the machine requires skilled operation; in other words, you should read this user manual before hitching the machine to the tractor. Even if you have had a similar machine before, you must still read the manual, as it covers a number of aspects, including your own safety.

A snow blower is a machine operated by one person. The driver must ensure that no one is in the working area of the machine, particularly children. You must not let others use the machine until you have made sure they have the necessary knowledge to operate the machine safely.

This section contains precautionary rules which should usually be known to the operator prior to using the machine.

- Engage the tractor parking brake and shut down the tractor engine before performing any of the following:
  - Lubricating the machine
  - Cleaning the machine
  - Removing any part from the machine
  - Adjusting, repairing or maintaining the machine.
- Always lower the machine to the ground or fit the transport safety device whenever you have to park it.
- Never work under a unit raised off the ground unless it is secured using chocks or some other form of mechanical securing device.
- Do not start the tractor until anyone in the vicinity is at a safe distance from the machine.
- Before starting the tractor, check to ensure any tools have been removed from the machine.
- Make sure all covers have been correctly re-fitted.
- Do not work in loosely fitting clothes, as these can get caught in moving parts on the machine.
- Always use the lighting and safety markings required by law when transporting the machine on public highways and when driving in the dark.
- Do not stand near the machine when it is running.
- You should use ear defenders if the noise from the machine causes discomfort.

- Before raising or lowering the machine, you should check that no one is near the machine.
- Do not use the machine for work other than that for which it is designed.
- Do not stand between the tractor and machine while hitching or unhitching.
- Only use original spare parts.
- No one may sit on the machine while it is running.
- During repairs or lubrication, the power take-off shaft and/or hydraulic hoses must be disconnected.

All safety and other statutory regulations of the user country in question must be complied with. You must also adhere to the tractor operating instructions.

The machine may only be used to remove snow. If you wish to use the machine for other purposes, please contact Fransgård Maskinfabrik A/S in Denmark on + 45 98 63 21 22.

### **Operating hazards**

It is the responsibility of the user to ensure operation of the snow blower does not represent a hazard to others. Consideration must be given to people and animals in the vicinity of the machine, as the snow may contain stones or other objects. The machine chute must therefore be set so that snow which is thrown from the machine does not represent a hazard for other road users.

### **Dismantling**

Once the machine has come to the end of its useful life, it must be handed over to a nationally approved breaker's yard.

If there are oil products in the machine, these must be removed in accordance with the relevant national legislation.

### **Ordering spare parts**

When ordering spare parts, please state the type designation, serial number and year of manufacture. You will find these details on the rating plate. You are urged to note down these details immediately on receipt of the machine on the first page of the spare parts catalogue supplied with it. In this way, they will be readily to hand when you need to order parts.



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# EC Declaration of Conformity

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6. maj 2014

## Manufacturer

*Name:* Fransgård Maskinfabrik A/S  
*Address:* Fredbjergvej 130, Fredbjerg  
DK 9640 Farsø  
*Country:* Danmark  
*Telephone:* +45 98632122

which itself brings together the technical file

hereby declare that

## Product

*No.:* S-220-1  
*Name:* S-220-1 To-trins snefræser  
*Type:* S-220-1  
*Serial no.:*  
*Company Name:*

is in conformity with

Directive 2006/42/EC of the European Parliament and of the Council of 17  
May 2006 on machinery

*Position:* Udviklingschef  
*Name:* Ivan Kristensen  
*Company Name:* Fransgård  
Maskinfabrik A/S

*Ivan Kristensen*

Date

Signature





