
User Information

Crane buckets 350 to 1400 litres



Store for future reference



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Type	Year of construction	Capacity [Litre = dm ³]	Density [kg / dm ³]	Max. load [kg]
KSN 350		350.00	2.00	700.00
KSN 500		500.00	2.00	1000.00
KSN 750		750.00	1.87	1400.00
KSN 1000		1000.00	1.80	1800.00
KSN 1400		1400.00	1.57	2200.00

Invoice number:

KSN - no.

Trademark, Logo



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Diem-Werke G.m.b.H.

MADE IN AUSTRIA

User Information:
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1 Important information

Documentation

This user information document is intended for persons operating or maintaining crane buckets which are manufactured by the DIEM-WERKE G.m.b.H.

Measures on receipt of the goods

- 🔍 Perform a visual inspection of the crane bucket on its receipt.

If there are any signs of transportation damage, take the necessary steps as described in the supply contract. Any repair costs must be borne by the forwarding agent insuring the risk.

Storage


Store the crane bucket to protect it against bad weather or external influences.

Models

If the documentation describes various models, only the information for the supplied model will apply. If the stated information does not explicitly differentiate between models, it will apply in a logical manner to all models. We reserve the right to make any changes prior to delivery which serve to improve the supplied product.

Accident prevention

Ensure compliance with the notes on accident prevention given in the documentation.

 Any relevant country-specific accident prevention regulations for a given application must also be observed.

The company DIEM-WERKE G.m.b.H. manufactures its products according to current international safety standards. Any specific local regulations must be notified by the customer prior to the start of manufacture. Any additional costs must be borne by the customer.

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Guarantee

Guarantees are given within the scope of the contractual agreement. It is a pre-requisite that only original spare parts are used. Damages through improper use, non-compliance with our regulations or incorrect operation by unauthorised personnel will void any guarantee claim.

Legend

- ⇒ Action required:
This symbol is shown whenever an action has to be carried out once the information has been read.
- ⓘ Information:
This symbol is used to indicate important information on the use of the crane bucket.
- 🔢 Numbering symbol

List of abbreviations

The following abbreviations are used in this user information guide:

- 🔢 KSN for crane bucket

Definitions

Operation: refers to the loading, unloading, attaching and detaching of lifting tackle.

Load: Mass of bulk material

Loading point: position at which the crane bucket is hooked on to the lifting tackle.

Centre of gravity: centre of the load.

Lifting tackle: e.g. chain, cable, hooks.

Structure of this user information document

This manual should facilitate rapid and easy operation of the described crane buckets and serve as a document for future reference. This user information document is intended for trained personnel and serves to provide assistance during startup, operation, service or repair work. The table of contents at the start of this document allows the required section to be quickly located.

Read this user information document so you become familiar with the particular model of crane bucket.

Observe all safety instructions. They should help prevent accidents and damages.

2 Fundamental safety instructions


2.1 Observe the instructions given in the user information document

A basic pre-requisite for safe usage and fault-free operation of the described crane buckets is knowledge of the fundamental safety instructions and safety regulations.

This user information document, in particular the safety instructions, must be observed by all persons working with the crane buckets.

Furthermore ensure compliance with the relevant local rules and regulations on accident prevention.

2.2 Observe all local safety regulations

 In addition to the safety regulations specified in these instructions, also ensure compliance with any country-specific regulations relating to the use of the crane bucket in a specific application.

2.3 Hazards when using the crane buckets

The crane buckets have been manufactured using state-of-the-art technology and in accordance with recognised safety-related guidelines. However, when using the crane bucket there is a risk of (fatal) injury to the user or third persons as well as material damage. Only use the crane bucket:

- ↳ for its intended application (see chapter 2.6)
- ↳ when it is in a perfectly safe state.

2.4 Warranty and liability

In principle our "General Sales and Delivery Conditions" apply. These are provided to the operator no later than the point at which the contract is finalised. Warranty and liability claims for personal or material damage are not covered if caused by one of the following:

- ↳ Usage other than that for which it is intended.
- ↳ Improper installation, startup, operation and maintenance.
- ↳ Use of damaged crane buckets.
- ↳ Non-observance of the instructions in the user information document concerning transportation, storage, installation, startup, operation and maintenance.
- ↳ Unauthorised mechanical modifications.
- ↳ Inadequate monitoring of components which are subject to wear.
- ↳ Improper repair work.
- ↳ Catastrophes due to effects/influences from extraneous elements and force majeure.

2.5 Safety instructions, explanations of symbols

The hazard symbols always appear together with a signal word. The signal words indicate the extent of the hazard.
Carefully read the safety instructions. They play a major role in safe usage of the crane buckets and help prevent the occurrence of faults which could have severe consequences for persons as well as the equipment itself.

2.5.1 Significance of the signal words

Hazard!

Hazard which threatens immediate danger

Non-observance of this instruction can result in serious, life-threatening or even fatal injuries.

Warning!

Potential threat of danger








Non-observance of these instructions can result in serious, life-threatening or fatal injuries as well as material damage.

Attention !

Potential threat of danger

Non-observance of these instructions can result in injuries or material damage.

2.5.2 Significance of hazard symbols

 <p>Uncontrolled movements of crane bucket.</p>	 <p>Wear safety shoes.</p>
 <p>General hazard.</p>	 <p>Wear a hardhat.</p>
 <p>Risk of crushing for whole body.</p>	
 <p>Prohibited for unauthorised persons.</p>	
 <p>Transportation of persons is prohibited.</p>	

2.6 Intended use

- ↳ The crane buckets **KSN 350, KSN 500, KSN 700, KSN 1000 und KSN 1400** may only be filled with bulk materials whose density (mass per unit of volume) does not exceed the values given in the following table.

Type	Capacity [Litre = dm ³]	Density [kg / dm ³]	Max. load [kg]
KSN 350	350	2.00	700
KSN 500	500	2.00	1000
KSN 750	750	1.87	1400
KSN 1000	1000	1.80	1800
KSN 1400	1400	1.57	2200

- ↳ The allowed load of the given bucket type must not be exceeded.
- ↳ The crane buckets may only be used on construction cranes.

The definition of intended use also includes:

- ↳ Observance of accident prevention regulations
- ↳ Observance of all instructions in the user information document
- ↳ Performing all the required inspection and maintenance tasks

2.7 Improper usage

- ↳ The transporting of persons is not permitted.
- ↳ The transporting of packaged goods is not permitted.
- ↳ Usage on mobile cranes is not permitted.

All applications other than those listed in section 2.6 are prohibited. DIEM-WERKE G.m.b.H will not accept liability for any consequential damages.

Improper usage may result in hazards which are not fully covered by the safety measures.

2.8 Staff training

Only trained and briefed staff with the necessary experience are allowed to operate the crane bucket.

Trainee staff are only allowed to operate the crane bucket under the supervision of an experienced person.

2.9 Service and maintenance, trouble-shooting

- ↳ Perform the specified adjustment, maintenance and inspection tasks at the required intervals.
- ↳ Position the crane bucket on solid ground and hook off from crane when performing any maintenance, inspection and repair work.
- ↳ Verify that any previously loosened screw fittings are tight.
- ↳ Check the function of safety devices after the maintenance work has been completed.

2.10 Structural changes to the crane bucket

- ↳ Modifications at the crane bucket should only be performed by the manufacturer.
- ↳ Immediately replace any parts which are not in an acceptable condition.
- ↳ Only use original spare parts and wearing parts.
- ↳ Third-party components do not necessarily fulfil the structural and safety requirements in terms of design and manufacture.
- ↳ The manufacturer is only liable for subsequently installed additional fittings at the crane bucket if he has performed these modifications himself.
- ↳ The equipment must be restored to its original state when any additional fittings are removed.

2.11 Transport

- ⓘ Use suitable means to prevent the crane bucket from sliding or toppling during transportation.

2.12 Disposal

- ⓘ Immediately make any disused crane bucket inoperative and label accordingly!

- ⓘ Observe the corresponding regulations in the country of operation when scrapping the crane bucket.

3 Product description

The crane bucket types **KSN 350 – KSN 1400** are completely welded solid steel constructions incorporating the emptying mechanism

The wall thickness of the bucket is between 4 mm for KSN 350 & KSN 500 and 5 mm for types KSN 750, KSN 1000, and KSN 1400.

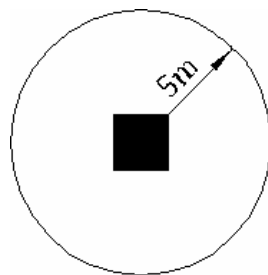
The crane buckets are completely free for filling as the stirrup can be fully folded back.

The automatic self dumping mechanism enables the bucket to be fully emptied from the crane.

After emptying, the mechanism releases the bucket for a new load (see chapter 4.3).

3.1 Hazard areas

The operator must ensure that no other persons are located in the vicinity of the crane bucket when loading, unloading, raising and lowering the crane bucket! He is also responsible for any third parties that may be present.



PROTECTION ZONE: 5 metres.

3.2 Conformity

Regulations for load lifting attachments
EN-13155:2003

3.3 Designation

The crane buckets are labelled with the nominal load.

3.4 Area of application

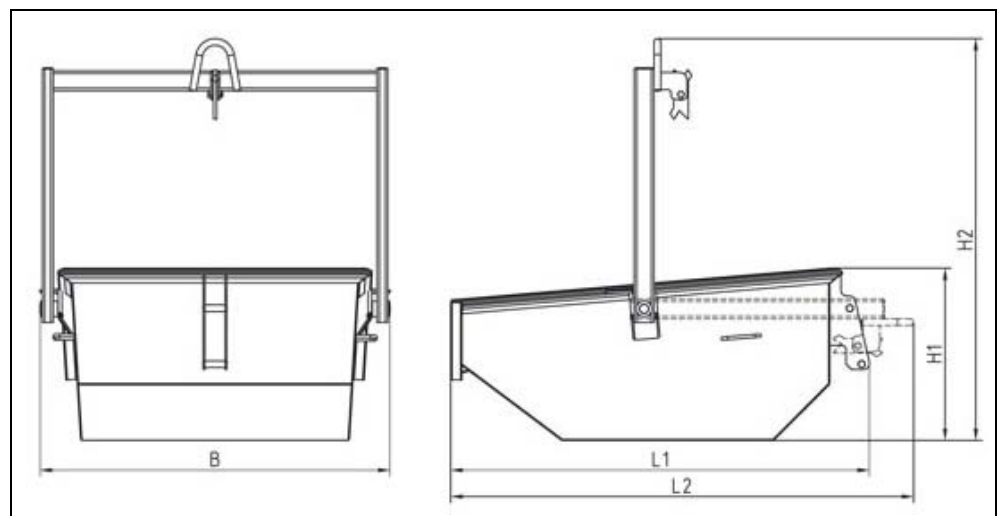
The crane bucket is designed for the transportation of homogenous materials (concrete, gravel, etc.) by means of a construction crane. The transportation of packaged goods (boards, scaffolding, etc.) is not permitted.

The crane bucket may not be used on mobile cranes.

3.5 Technical data

Type	Capacity [Litre = dm ³]	Density - bulk material [kg / dm ³]	Max. load [kg]
KSN 350	350	2.00	700
KSN 500	500	2.00	1000
KSN 750	750	1.87	1400
KSN 1000	1000	1.80	1800
KSN 1400	1400	1.57	2200

3.5.1 Dimensions



Type	Dead weight [kg]	B [mm]	L1 [mm]	L2 [mm]	H 1 [mm]	H 2 [mm]
KSN 350	133	1100	1395	1590	555	1375
KSN 500	160	1245	1555	1750	610	1465
KSN 750	243	1425	1610	1805	732	1635
KSN 1000	300	1577	1887	2078	775	1810
KSN 1400	360	1705	2088	2274	870	1940

4 Operation

4.1 Safety instructions



Warning!

Risk of injury!

Uncontrolled movement of the crane bucket can lead to serious injury, life-threatening injury, or death.

- ⇒ Never walk under suspended loads.
 - ⇒ Leave the hazard area of the crane bucket when lifting or lowering loads.
 - ⇒ Only fill the crane bucket when it is positioned on the ground.
-



Warning!

Danger of crushing!

Should the stirrup fall down when the crane bucket is not in operation, this can lead to serious injury or death.

- ⇒ Always leave the stirrup in the back position when the crane bucket is not in use.
-



Warning!

Risk of injury!

Overloading the crane bucket can lead to serious injury, life-threatening injury, or death.

- ⇒ Do not load in excess of the crane bucket's specified load capacity.
-



Warning!

Risk of death!

The transporting of persons with the crane bucket is not permitted.



Warning!

Risk of injury!

Operation of the crane bucket by insufficiently trained or inexperienced personnel can lead to serious injuries, life-threatening injuries or death.

- ⇒ Only trained staff with the necessary experience are allowed to operate the crane bucket.
 - ⇒ Insufficiently trained or inexperienced personnel may only operate the crane bucket under supervision from experienced, trained personnel.
 - ⇒ Persons under the age of 16 may not operate the crane bucket.
-



Always wear safety shoes.



Always wear a safety helmet.

4.2 Load characteristics

- ↳ The weight of the load may not exceed the load capacity of the crane bucket.
- ↳ See also chapt. 2.6 "Intended use".

4.3 Filling / emptying crane bucket



Warning!

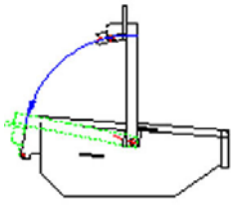


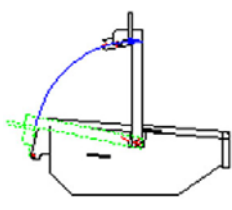
Risk of injury!

Failing to correctly load the crane bucket can lead to serious injury, life-threatening injury, or death.

- ⇒ Do not load in excess of the crane bucket's specified load capacity.
- ⇒ Always stand to the side of the crane bucket in order to empty it.
- ⇒ Always completely empty the crane bucket, so that residual materials cannot fall out during transportation.

The automatic self dumping mechanism enables the bucket to be fully emptied from the crane.

After emptying, the mechanism releases the bucket for a new load

			
<ul style="list-style-type: none"> ⇒ Put crane bucket down. ⇒ Lower stirrup. 	<ul style="list-style-type: none"> ⇒ Lift crane bucket. 	<ul style="list-style-type: none"> ⇒ Transport tilted crane bucket to filling station. ⇒ Lower crane bucket. 	<ul style="list-style-type: none"> ⇒ Fill crane bucket. ⇒ Lift crane bucket and transport to emptying station.

If the crane bucket cannot be completely emptied.


It is possible that tenacious materials (e.g. soil, clay) will stick to the bottom of the crane bucket when it is emptied.

You may attempt to remove the material from the crane bucket by means of shaking the side-mounted jarring handle.

Should you not be able to empty the bucket by means of shaking the jarring handle:

- ⇒ Place the crane bucket on the ground.
- ⇒ Allow the crane bucket's stirrup to sink backwards.
- ⇒ Hook off the crane bucket from the hook.
- ⇒ Remove the material with auxiliary means.

4.4 Attaching the crane bucket to the crane

-  Use a crane hook with a safety latch in order to prevent unhooking while the cable is unloaded.

5 Problems, resolving problems

5.1 Safety regulations



- ↳ Fault maintenance tasks may only be undertaken by experienced personnel.
- ↳ Repairs requiring expert knowledge should only be carried out by specialist workshops.
- ↳ If the crane bucket exhibits pitting corrosion or cracks it is of no use and may not be operated.



Always wear safety shoes.

5.2 Problem resolution

Error	Possible cause	Rectification
The crane bucket does not hang level when unloaded.	Crane bucket out of shape.	Consultation with DIEM-WERKE: Do not operate crane bucket.
The crane bucket does not hang level when loaded.	Application of the crane bucket wrong.	Use a crane bucket designed for the application. Consultation with DIEM-WERKE.
Emptying mechanism does not work correctly.	Stop wheel worn out.	Have stop wheel replaced by specialist workshop.
	Stop wheel turns too easily.	Adjust stop wheel (see chapter 6.2).
	Bolt at stop wheel is worn out.	Have stop wheel bolts replaced by specialist workshop.
	Stirrup or stop wheel (or part of the stop wheel) deformed.	Consultation with DIEM-WERKE: Do not operate crane bucket.

6 Maintenance / Setting up / Repair

6.1 Safety regulations



- ⚡ Only carry out maintenance work when the crane bucket is positioned on the ground and is statically stable.
- ⚡ Carry out prescribed maintenance work punctually.
- ⚡ Re-tighten loosened screwed connections and check for tightness.
- ⚡ Work may only be undertaken by experienced personnel.



Always wear safety shoes.

Our service personnel are happy to answer any questions.

6.2 Maintenance work

Inspect for visual damage on a daily basis.

- ⚡ Pinholing
- ⚡ Deformations

Lubricate the moving parts monthly.

- ⚡ Bearings stop wheel
- ⚡ Bearings stirrup

Adjust stop wheel

i The stop wheel must turn with a noticeable resistance.

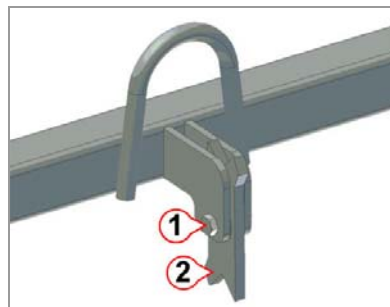


Abb. 1 Stop wheel (2)

Stop wheel (2) tightens with difficulty: Loosening bolt (1).

Stop wheel (2) tightens easily: Tighten bolt (1).

6.3 Repair work

i Repairs should only be carried out by authorised specialist workshops.

7 Shutdown and storage

7.1 Safety regulations



Warning!

Danger of crushing!

Should the stirrup fall down when the crane bucket is not in operation, this can lead to serious injury or death.

⇒ Always leave the stirrup in the back position when the crane bucket is not in use.



Caution!

Risk of injury!

Store the crane bucket where it is inaccessible to unauthorised persons.

7.2 Storage conditions

- ↳ Do not store the crane bucket outdoors.
- ↳ Store the crane bucket in a safe place, where it is not accessible to unauthorised persons.
- ↳ Store the crane bucket so that it is statically stable.
- ↳ Grease all moving parts.
- ↳ Cover complete crane bucket with a thin film of oil during long storage periods (winter).
- ↳ Put the stirrup down to the rear.

The crane bucket bodies are stackable, due to conical design of the crane buckets. This saves you transportation costs and storage space.



7.3 Restarting



Verify the complete functionality of the crane bucket before starting it up again.

Non-operational crane buckets may not be used.

Check the following:

- ↳ Crane bucket hangs level.
- ↳ No pinholing.
- ↳ Check stop wheel function.

8 Customer service

If you require assistance:

- 📎 Copy this page.
- 📎 Please fill in the tables.
The more information we receive, the greater the chance of providing a correct diagnosis and rapid service.
- 📎 Fax this copy to:

DIEM - Werke G.m.b.H. , +43 / 5574 / 46418
or your nearest customer service centre (see next page).

Crane bucket:

Type	
KSN 350	
KSN 500	
KSN 750	
KSN 1000	
KSN 1400	

Year of construction:

Invoice – No.:

Purchase date:

Problem description:

Sent by:

Company:

Contact person:

Department:

Address:















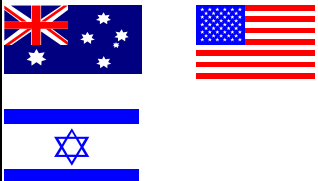
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Telephone:

Fax:

E-mail:

8.1 Service centres

	<p>At the time of print, service centres are available in the countries below. Please call us on +43 / 5574 / 42874 to obtain the address of your nearest service centre.</p>
	<p>HEADQUARTERS</p> <p>DIEM - Werke G.m.b.H. Lindauer Straße 60 A - 6911 Lochau</p> <p>Tel: +43 / 5574 / 42874 Fax: +43 / 5574 / 46418 E-mail: diem@diemwerke.com</p>
	<p>Belgium</p>
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