

# **Operating Instructions**

\_\_\_ Chain Hoist

\_\_\_\_ K 1000, K 2000, K 3000

\_\_\_\_ K 5000, K 10000



Chain Hoist K 1000



### **Imprint**

#### **Product identification**

 Chain Hoist
 Art. No.

 K 1000
 6202101

 K 2000
 6202102

 K 3000
 6202103

 K 5000
 6202105

 K 10000
 6202110

#### Manufacturer

Stürmer Maschinen GmbH Dr.-Robert-Pfleger-Str. 26 D-96103 Hallstadt

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#### Indications regarding the operating instructions

Original instructions

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Subject to technical modifications and error.

#### Content

1.1 Copyright       3         1.2 Customer service       3         1.3 Limitation of liability       3         2 Safety       3         2.1 Symbol explanation       3         2.2 Obligations of the operating company       4         2.3 Requirements to staff       5         2.4 Personal protective equipment       5         2.5 General safety regulations       5         2.6 Safety information for operating personnel       6         2.7 Checks       6         3 Intended use       6         3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9      <	1	Introduction	.3
1.3 Limitation of liability       3         2 Safety       3         2.1 Symbol explanation       3         2.2 Obligations of the operating company       4         2.3 Requirements to staff       5         2.4 Personal protective equipment       5         2.5 General safety regulations       5         2.6 Safety information for operating personnel       6         2.7 Checks       6         3 Intended use       6         3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.2 Maintenance and repair       9         9.2 Maintenance and repair       9 </th <th></th> <th>1,70</th> <th></th>		1,70	
2 Safety			
2.1 Symbol explanation       3         2.2 Obligations of the operating company       4         2.3 Requirements to staff       5         2.4 Personal protective equipment       5         2.5 General safety regulations       5         2.6 Safety information for operating personnel       6         2.7 Checks       6         3 Intended use       6         3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         9.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9.1 Care by cleaning cleaning       9         9.2 Maintenance and repair		1.3 Limitation of liability	3
2.1 Symbol explanation       3         2.2 Obligations of the operating company       4         2.3 Requirements to staff       5         2.4 Personal protective equipment       5         2.5 General safety regulations       5         2.6 Safety information for operating personnel       6         2.7 Checks       6         3 Intended use       6         3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         9.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9.1 Care by cleaning cleaning       9         9.2 Maintenance and repair	2	Safety	.3
2.2 Obligations of the operating company       4         2.3 Requirements to staff       5         2.4 Personal protective equipment       5         2.5 General safety regulations       5         2.6 Safety information for operating personnel       6         2.7 Checks       6         3 Intended use       6         3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         9 Care, maintenance and repair       9         9 Maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11.1 Decommissioning       12         11.2 Disposal, recycling		•	
2.4 Personal protective equipment       5         2.5 General safety regulations       5         2.6 Safety information for operating personnel       6         2.7 Checks       6         3 Intended use       6         3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11.1 Decommissioning       12         11.2 Disposal, recycling of used devices       12         11.2 Spare parts       12         12.2 Spare parts       12			
2.5 General safety regulations       5         2.6 Safety information for operating personnel       6         2.7 Checks       6         3 Intended use       6         3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9 Care, maintenance and repair       9         9 1 Care by cleaning       9         9 2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12 </th <th></th> <th></th> <th></th>			
2.6 Safety information for operating personnel       6         2.7 Checks       6         3 Intended use       6         3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11.1 Decommissioning       12         11.2 Disposal, recycling of used devices       12         11.1 Ordering spare parts       12         12.2 Spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14 <th></th> <th></th> <th></th>			
2.7 Checks       6         3 Intended use       6         3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14			
3 Intended use       6         3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14			
3.1 Foreseeable misuse       6         3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14 <th></th> <th></th> <th></th>			
3.2 Residual risks       6         4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14	3		
4 Technical data       7         4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14			
4.1 Type plate       7         5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14		3.2 Residual risks	6
5 Transport, packaging, storage       7         5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14	4	Technical data	.7
5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14		4.1 Type plate	7
5.1 Transport       7         5.2 Packaging       7         5.3 Storage       7         6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14	5	Transport, packaging, storage	.7
5.2 Packaging.       7         5.3 Storage.       7         6 Description of the device.       8         7 Start-up.       8         8 Operation.       8         8.1 Operating conditions.       9         8.2 Test run.       9         8.3 Raising a load.       9         8.4 Sink a load.       9         9 Care, maintenance and repair.       9         9.1 Care by cleaning.       9         9.2 Maintenance and repair.       9         9.2 Maintenance and repair.       9         10 Testing the chain hoists.       12         11 Disposal, recycling of used devices.       12         11.1 Decommissioning.       12         11.2 Disposal of lubricants.       12         12 Spare parts.       12         12.1 Ordering spare parts.       12         12.2 Spare parts drawing.       13         13 EC Declaration of Conformity.       14			
6 Description of the device       8         7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14			
7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14		5.3 Storage	7
7 Start-up       8         8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         9 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14	6	Description of the device	.8
8 Operation       8         8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14	7	Start-up	.8
8.1 Operating conditions       9         8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14		•	
8.2 Test run       9         8.3 Raising a load       9         8.4 Sink a load       9         9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14	Ĭ		
8.3 Raising a load			
9 Care, maintenance and repair       9         9.1 Care by cleaning       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14		8.3 Raising a load	9
9.1 Care by cleaning       9         9.2 Maintenance and repair       9         10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14		8.4 Sink a load	9
9.2 Maintenance and repair 9  10 Testing the chain hoists 12  11 Disposal, recycling of used devices 12  11.1 Decommissioning 12  11.2 Disposal of lubricants 12  12 Spare parts 12  12.1 Ordering spare parts 12  12.2 Spare parts 13  13 EC Declaration of Conformity 14	9	Care, maintenance and repair	.9
10 Testing the chain hoists       12         11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14		9.1 Care by cleaning	9
11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14		9.2 Maintenance and repair	9
11 Disposal, recycling of used devices       12         11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14	1(	O Testing the chain hoists	12
11.1 Decommissioning       12         11.2 Disposal of lubricants       12         12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14			
12 Spare parts       12         12.1 Ordering spare parts       12         12.2 Spare parts drawing       13         13 EC Declaration of Conformity       14			
12.1 Ordering spare parts		11.2 Disposal of lubricants	12
12.1 Ordering spare parts	12	2 Spare parts	12
12.2 Spare parts drawing			
•			
•	13	3 EC Declaration of Conformity	14
		4 Maintenance plan	



#### 1 Introduction

You have made a good choice by purchasing the UNI-CRAFT Chain Hoist.

## Read the operating manual thoroughly before commissioning the machine.

It gives you information about the proper commissioning, intended use and safe and efficient operation and maintenance of your Chain Hoist.

The operating manual is part of the Chain Hoist package. Always keep this operating manual in the location where your Chain Hoist is being operated. All local accident prevention regulations and general safety instructions for the operating range of your Chain Hoist must also be complied with.

#### 1.1 Copyright

The contents of these instructions are copyright. They may be used in conjunction with the operation of the Chain Hoist. Any application beyond those described is not permitted without the written approval of Stürmer GmbH.

#### 1.2 Customer service

Please contact your dealer if you have questions concerning your Chain Hoist or if you need technical advice. They will help you with specialist information and expert advice.

#### Germany:

Stürmer Maschinen GmbH Dr.-Robert-Pfleger-Str. 26 D-96103 Hallstadt

#### Repair service:

Fax: 0049 (0) 951 96555-111

E-Mail: service@stuermer-maschinen.de

#### Spare part orders:

Fax: 0049 (0) 951 96555-119

E-Mail: ersatzteile@stuermer-maschinen.de

We are always interested in valuable experience and knowledge gained from using the application-which then could be shared and be valuable to develop our products even further

#### 1.3 Limitation of liability

All information and notes in these operating instructions were summarised while taking applicable standards and rules, the state-of-the-art technology and our long-term knowledge and experiences into consideration.

In the following cases the manufacturer is not liable for damages:

- Non-observance of the operating instructions,
- Inappropriate use
- Use of untrained staff,
- unauthorised modifications
- technical changes,
- Use of not allowed spare parts.

The actual scope of delivery may deviate from the explanations and presentations described here in case of special models, when using additional ordering options or due to latest technical modifications.

The obligations agreed in the delivery contract, the general terms and conditions as well as the delivery conditions of the manufacturer and the legal regulations at the time of the conclusion of the contract are applicable.

### 2 Safety

This section provides an overview of all important safety packages for the protection of operating personnel as well as for safe and fault-free operation. Other task-based safety notes are included in the paragraphs of the individual phases of life.

#### 2.1 Symbol explanation

#### Safety instructions

The safety notes in these operating instructions are highlighted by symbols. The safety notes are introduced by signal words which express the concern of the risk.



#### DANGER!

This combination of symbol and signal words indicates an imminently dangerous situation which may lead to death or severe injury if not avoided.



#### **WARNING!**

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to death or severe injury if not avoided.





#### **CAUTION!**

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to slight or minor injury if not avoided.



#### ATTENTION!

This combination of symbol and signal words indicates a possibly dangerous situation which may lead to property and environmental damages if they are not avoided.



#### NOTE!

This combination of symbol and signal words indicates a potentially dangerous situation which may lead to material or environmental damage if not avoided.

#### Tips and recommendations



#### Tips and recommendations

This symbol highlights useful tips and recommendations as well as information for an efficient and trouble-free operation.

It is necessary to observe the safety notes written in these operating instructions in order to reduce the risk of personal injuries and damages to property.

#### 2.2 Obligations of the operating company

#### of the operator

The operating company is the person who operates the chain hoist for business or commercial reasons by herself, or leaves it to a third party for use or application, and who bears the legal product responsibility for the protection of the user, the staff or for third parties.

#### Obligations of the operating company

If the chain hoist is used for commercial purposes, the operating company of the chain hoist must comply with the legal working safety regulations. Therefore, the safety notes in this operating manual, as well as the safety, accident prevention and environment protection regulations applying for the area of application of of the chain hoist must be met. The following applies in particular:

- The operating company must be informed about the applying industrial safety regulations and further analyse hazards resulting from the special working conditions at the place of use of the chain hoist. She must implement these in form of operating manuals for the operation of the chain hoist.
- During the entire lifetime of of the chain hoist, the operating company must verify whether the operating manuals prepared by her correspond to the current status of the regulations, and must adapt these if necessary.
- The operating company must unambiguously regulate and determine the responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- The operating company must ensure that all persons who work with the chain hoist, have read and understood this manual. Furthermore she must instruct the staff in regular intervals and inform them about the hazards.
- The operator must provide the necessary protective equipment to the staff and order the use of the necessary protective equipment in a binding way.

Furthermore the operating company is responsible to keep the chain hoist always in a technically flawless state. Thus, the following applies:

- The operator must ensure that the maintenance intervals described in this manual are kept.
- The operator must have all safety devices checked regularly for their good working order and their integrity.



#### 2.3 Requirements to staff

#### Qualifications

The different tasks described in this manual represent different requirements to the qualification of the persons entrusted with these tasks.



#### **WARNING!**

## Danger in case of insufficient qualification of the staff!

Insufficiently qualified persons cannot estimate the risks while using the chain hoist and expose themselves and others to the danger of severe or lethal injuries.

- Have all works only performed by qualified persons
- Keep insufficiently qualified persons out of the working area.

Only persons reliable working procedures can be expected from, are allowed to perform all works. Persons the responsiveness of which is affected by e. g. drugs, alcohol or medication, are not allowed to work with the machine.

The qualifications of the personnel for the different tasks are mentioned below:

#### Operator

The operator is instructed by the operating company about the assigned tasks and possible risks in case of improper behaviour. Any tasks which need to be performed beyond the operation in the standard mode must only be performed by the operator if it is indicated in these instructions and if the operating company expressively commissioned the operator.

#### **Qualified personnel**

Due to their professional training, knowledge and experience as well as their knowledge of relevant regulations the specialist staff is able to perform the assigned tasks and to recognise and avoid any possible dangers themselves.

#### Manufacturer

Certain works may only be performed by specialist personnel of the manufacturer. Other personnel is not authorized to perform these works. Please contact our customer service for the execution of all arising work.

#### 2.4 Personal protective equipment

The personal protective equipment serves to protect persons against impairments of safety and health while working. The staff member has to wear personal protective equipment while performing different tasks on and with the machine which are indicated in the individual paragraphs of these instructions.

The personal protective equipment is explained in the following paragraph:



#### **Head protection**

The industrial helmet protects the head against falling objects and hitting on fixed objects.



#### **Protective gloves**

The protective gloves serve to protect the hands against sharp components as well as against friction, abrasions or deep injuries.



#### Safety boots

Safety boots protect the feet from being crushed, falling parts and slipping over on slippery ground.



#### **Protective clothes**

Protective clothes are made of a tightly fitted fabric without the protruding parts of low tear strength.

#### 2.5 General safety regulations



#### NOTE!

All local regulations (the latest valid version) which apply in the country where the device is used must be complied with

In Germany, currently

BGV A1 - Principles of Prevention

BGV D8 - Winching, lifting and pulling equipment BGR 500 (VBG 9a) - Load carrying devices used with lifting equipment

BGV B3 (VBG 121) - Noise

BGG 905 (ZH 1/27) - Principles for testing cranes EN 1494 - Mobile or movable jacks and associated lifting equipment

EC Machine guidelines 2006/42/EC

Setting up, retrofitting, maintenance and inspection work may be carried out only on equipment that is not in operation. The work is allowed for trained personnel only.



It is important to point out that the making of any unauthorised modifications or changes to the machine is not permitted.

Operating personnel must always ensure that the maximum load is never exceeded.

Personnel must not stand underneath a suspended load as this could come loose and fall.

Personnel must not ride on or be lifted by the equipment. Access to lifting equipment is not permitted...

#### 2.6 Safety information for operating personnel

No operational mode which could compromise the safety of the chain hoist may be undertaken.

It is the responsibility of the operator to ensure that no unauthorised personnel work on the chain hoist (e.g. also by working on equipment in a manner contrary to authorised use).

It is the responsibility of the operator to check the chain hoist at least once before use (once a day) for externally apparent damage or defects and to report any changes (including to the way the machine is operating) which are likely to compromise safety.

It is the responsibility of the operator to ensure that the the chain hoist is operated only in perfect order and condition.

It is the responsibility of the operator to insist that operating personnel must wear protective clothing wherever necessary.

Under no circumstances must safety devices be removed or put of operation (potential risk of serious crushing, danger to life).

If it is necessary to remove any safety devices for fitting, repair or maintenance work, they must be re-installed immediately after maintenance or repair is complete.

#### 2.7 Checks

Hoisting cables are classed as a load-carrying device requiring inspection. For this reason, the following guidelines issued by the trade association central office for accident prevention regarding steel cables used in lifting operations must be complied with: DIN 685 Part 5 Nov. 1981, UVV, BGV D8 (VBG 8 April 1997) and UVV, BGV D6 (VBG 9 April 2001) and DIN EN 818-7 September 2002.

A record of maintenance and inspections carried out must be entered in the crane inspection log book (e.g. any adjustment to the brakes or clutch).

#### 3 Intended use

The chain hoist must only be used for lifting and lowering of machines up to the maximum specified load.

The chain hoist may be operated only by personnel who have been trained in its use.

The proper use also includes observing all indications in these operating instructions. Any use beyond the proper use or any other use is regarded as misuse. Under no circumstances may personnel be lifted. Use of the device in other areas and for other purposes is considered improper use.

Stürmer Maschinen GmbH accepts no liability for any constructional or technical modifications carried out on the chain hoist.

Any claims due to damages because of not intended use are excluded.

#### 3.1 Foreseeable misuse

If the intended use is observed, any reasonably foreseeable misuse which could lead to hazardous situations with personal damage is impossible with the chain hoist.

#### 3.2 Residual risks

Even if all safety regulations are observed a residual risk in the operation of the chain hoist will remain, as described below.

All persons working with the chain hoist must be aware of these residual risks and follow the instructions which prevent any accidents or damage caused by these residual risks.

- Risk of crushing of upper and lower limbs while equipment is operating.
- During set-up and adjustment works it may become necessary to remove safety devices installed by the customer. This causes different residual risks and hazard potentials each operator must be aware of.



#### 4 Technical data

Model	K 1000	K 2000	K 3000
Load-carrying capacity (t)	1	2	3
Stroke (mm)	2500	2500	3000
Min. hook to hook distance	300	380	470
Lifting force	330 N	330 N	390 N
Number of chain strands	1	2	2
Weight (kg)	9,4	12,4	21,7

Model	K 5000	K 10000		
Load-carrying capacity (t)	5	10		
Stroke (mm)	3000	3000		
Min. hook to hook distance	600	730		
Lifting force	420 N	450 N		
Number of chain strands	2	4		
Weight (kg)	35	65		

#### 4.1 Type plate



Fig. 1: Type plate and the safety symbols, Chain Hoist K 1000

### 5 Transport, packaging, storage

#### 5.1 Transport

Check the chain hoist on delivery for any visible transportation damage. If you notice any damage to the device please report this immediately to the carrier or dealer.



#### NOTE!

The chain hoist should be protected from humidity.

#### 5.2 Packaging

All used packaging materials and packaging aids are recyclable and should be taken to a materials recycling depot to be disposed of.

The delivery packaging is made of cardboard, so please dispose carefully by having it chopped up and given to the recycling collection.

The film is made of polyethylene (PE) and the cushioned parts of polystyrene (PS). Deliver these substances to a collection point for recyclable materials or to the waste disposal company which looks after your region.

#### 5.3 Storage

The chain hoist should be lubricated and then stored in a dry, frost-free environment. Do not set anything down on the chain hoist.



### 6 Description of the device

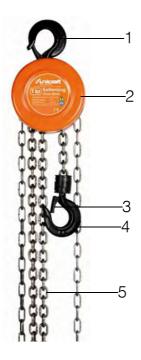


Fig. 2: Gerätebeschreibung

- 1 Hook
- 2 Chain housing with the deflection pulley
- 3 Safety lock
- 4 Load hook
- 5 Chain

Illustrations in these operating instructions may deviate from the original.

### 7 Start-up

All start-up tests of the chain hoist may only be carried out by licensed experts.

Anymore, all functions of the chain hoist must be checked

### 8 Operation



#### **DANGER!**

#### Danger of life by crashing the load!

Falling loads can cause serious injury or death.

- Overload is vorbidden! Check that the load never exceeds the maximum load stated on the nameplate.
- Never rock the lifted load.
- Never stand, linger or work below a suspended load!
- Under no circumstances may a load be subjected to a heavy blow or collision.
- Make sure that the stopper on the chain hoist is mounted and has sufficient load capacity to hold the load.
- Never lift a load with the chain hoist, which will slip off, fall off or whose parts are not firmly connected.
- A rusted or damaged Chain Hoist must never be
- A load lifted by the chain hoist should not be left unattended.
- Care should be taken during lifting or lowering that the operator does not stand within the working range of the load.



Head protection must be worn!



Use protective gloves!



Use protective boots!



Wear protective clothes!



#### NOTE!

- Operating personnel must be familiar with the operation and functions of the chain hoist and the safety regulations pertaining to it.
- The operator is responsible for ensuring that all operating personnel have had the necessary training.



#### 8.1 Operating conditions

The working area has to be protected against fire and explosions and free from corroding and toxic substances.

Dangerous goods like molten, toxic or radioactive material must not be moved with the chain hoist.

The chain hoist must not be used in the open air if it is raining.

#### 8.2 Test run

Before using the chain hoist to lift a load, a no-load test should be carried out to test all functions.

#### 8.3 Raising a load

Step 1: Hook the load on the load hook of the chain hoist and close the safety lock.



#### NOTE!

- Do not wrap the load chain around the load.
- The load chain must be not urned in itself.
- Check the center of gravity of the attachment point to prevent movement and slippage of the load.
- Slings (eyelet, chain, etc.) must lie loosely in the hook base.
- Hook nose may not be loaded.
- Close the safety catch
- Step 2: Carefully raise the load until the load chain is tensioned.
- Step 3: Raise the load only a little way initially and check that the cable and load are stable.
- Step 4: Raise the load slowly and steadily upwards.



#### NOTE!

The operator must have a sufficient free moving space.

#### 8.4 Sink a load

Step 1: Sink the load steadily and evenly downwards.



#### **CAUTION!**

#### Risk of crushing!

Injuries to hands and fingers may result from improper use of the chain hoist

- Do not hold the upper and lower limbs between the load and the ground when lowering the load.
- Step 2: Put the load on a stable and secure undergroud.
- Step 3: Open the safety catch of the load hook and disconnect the load.

### 9 Care, maintenance and repair

#### 9.1 Care by cleaning

The chain hoist must always be kept in a clean condition.



#### Use protective gloves!



#### NOTE!

Never use strong cleaning agents to clean the device. Such cleaning agents might damage or destroy the device.

All plastic and lacquered surfaces should be cleaned using a soft, damp cloth and a neutral cleaning agent.

Remove any excess lubricant or leaked oil using a dry, lint-free cloth.

#### 9.2 Maintenance and repair



#### ATTENTION!

- Maintenance and repair works must only be performed by specialists.
- Use only original spare parts in case of a repair.

#### Maintenance plan

If an increase in wear is noted during regular inspections, the maintenance intervals should be decreased in accordance with the actual signs of wear. Contact the manufacturer for further information concerning maintenance tasks and intervals. Please find the contact data on chapter 1.2 Customer service.



If the chain hoist is not functioning properly, contact a specialised dealer or our customer service.

Immediately reassemble all protective and safety equipment after completing the repair and maintenance of the device.

- Step 1: Lubricate all moving parts of the of the chain hoist (gears, bearings) with good quality grease.
- Step 2: Check the the chain hoist before each operation for visible signs of wear.
- Step 3: Always ensure that all safety information on the the chain hoist is clearly legible.

#### Visual inspection and maintenance

Maintenance intervals	Maintenance tasks
before each operation	Check the chain hoist for damage and wear, look particularly at the chain link and check for deflection, stretching, fissures or corrosion.
	Check brake for damage and wear. The brake disc clean if necessary, if a heavy wear then replace.
	Check the load/suspension hook for wear or loss of substance by abrasion. If the abrasion 10% or more of the normal working level, the hook must be replaced.
following each opera- tion	Clean the chain hoist thoroughly and lubricate well. Oil the load hook well.
every 40 hrs.	Oil the gearing and bearing well.
every 40 hrs.	Function control of the brake
every 40 hrs.	Cleaning of the brake disc
every 200 hrs.	Wear test and wear measurement of the brake disc
every 200 hrs.	Wear test and wear measurement of the chain link, the load/suspension hook
as required	Replacing the brake disc
as requiredf	Replacing the chain link, the load/suspension hook
annually	Safety check: If the chain hoist is used commercially it must be inspected annually in compliance with industrial safety regulations and the inspection must be recorded as per Section 10.

#### Control of the brake system:



#### **ATTENTION!**

The brake system must be checked regularly!

Brake tests are to be carried out as follows:

Step 1: Attach the load

Step 2: Lift the load.

Step 3: Raise and lower load at different heights.

Step 4: Test whether it is possible to hold the load in every position.

#### Adjusting of the brake:



Fig. 3: Adjusting of the brake

Turning the key in direction (A) increases the braking effect.

Turning the key in direction (B) reduces the braking effect.



#### **ATTENTION!**

The brake disc must be if the disc thickness is less than 3 mm.



#### Testing the load chain for wear

Continuous inspection of the chain hoist is a mandatory requirement in accordance with DIN 685 Part 5 or UVV BGV D8 Section 27 (VBG 8 Section 27). Check the chain hoist is before commissioning and under normal operating conditions after approx. 200 operating hours or 10.000 load cycles, in heavy operating conditions in at shorter intervals

The links should be checked especially at the points of contact for wear, cracking, deformation and other damage.

The chain must be replaced:

- Reduction of the nominal thickness at the contact points by 10%
- Elongation of a limb by 5% or the chain over 11 limbs by 2% stiff chain links

When changing the chain, check the chain guide and replace if necessary.



#### ATTENTION!

Only genuine replacement chain from the manufacturer of the chain hoist should be used.



Fig. 4: Dimension of the chain

Model	K 1000, K 2000	K 3000	K 5000, K 10000
Dimension of the chain link [mm]	6x18	8x24	10x30
Diameter of the chain link D [mm]	6+/-0,20	8+/-0,20	10+/-0,40
Length inside P [mm]	18+0,4	24+0,4	30+0,6
Min. width in- side Li [mm]	7,2	9,7	12,0

Model	K 1000, K 2000	K 3000	K 5000, K 10000	
Min. width outs- ide Le [mm]	20,4	26,0	34,0	
Chain weight [kg/m]	0,8	1,3	2,2	
Lifting capacity	1120 kg	1600 kg	3200 kg	
Min. tensile strength	45,3 kN	80,6 kN	126 kN	
Max. elongation	5%	5%	5%	
Min. hardness HRC	38	38	38	

#### Wear measurement and replace of the chain hoist

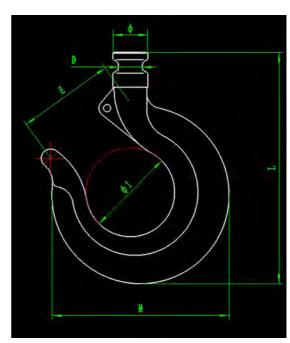


Fig. 5: Dimension of the hook

Model	Ø1	D	E	М	L
K 1000	38	10	43	80	99
K 2000	45	16	55	104	125
K 3000	50	20	68	125	153
K 5000	65	25	81	159	190
K 10000	85	32,5	109	216	246

Table: Dimension of the hook in mm

In accordance with DIN 15405 Section1, the load hooks are to be replaced with a widening of more than 10%.



#### ATTENTION!

Only genuine replacement parts from the manufacturer of the chain hoist should be used.



### 10 Testing the chain hoist

The chain hoist must be tested by a qualified person for safe operation in accordance with the provisions of the German Industrial Safety Ordinance and the BGR 500, Chapter 2.8, before first use and as required at intervals of no more than 1 year.

A person may be considered qualified if he / she has at least the qualifications previously given to the expert. The scope of testing and the inspection deadlines are i.a. according to the results of the risk assessment to be carried out.

Type, scope and deadlines of the tests described in the BGR 500 are previous practice and comply with the rules of technology. The test is essentially a visual and functional test. It covers the examination of the condition of the components and equipment, the completeness and effectiveness of the safety equipment and the completeness of the test book.

If a test period of the max one year is adhered to, the operator can assume that this period is adequate. Checking of the chain hoist must be verified by a log book.

### 11 Disposal, recycling of used devices

Please take care in your own interest and in the interest of the environment that all component parts of the machine are only disposed of in the intended and permitted way.

#### 11.1 Decommissioning

Immediately decommission disused machines in order to avoid later misuse and endangering of the environment or personal safety.

- Step 1: Eliminate all environmentally hazardous operating materials from the used device.
- Step 2: If required, disassemble the machine into easy-to-handle and usable components and parts.
- Step 3: Dispose of machine components and operating materials by the disposal channels provided.

#### 11.2 Disposal of lubricants

Remove any leaking, used or excessive grease at the lubricating points.

Disposal notes for used lubricants are available from the manufacturer of the lubricants. If necessary, request the product-specific data sheets.

#### 12 Spare parts



#### DANGER!

### Danger of injury by the use of wrong spare parts!

Dangers may result for the user and damages as well as malfunctions may be caused by using wrong or damaged spare parts.

- Only use original spare parts of the manufacturer or spare parts admitted by the manufacturer.
- Always contact the manufacturer in case of uncertainties.



#### Tips and recommendations

The manufacturer's warranty will become null and void if non-permissible spare parts are used

#### 12.1 Ordering spare parts

The spare parts may be purchased with the authorised dealer or directly with the manufacturer. Please find the corresponding contact data in Chapter 1.2 Customer service.

Indicate the following basic information for requests or orders of spare parts:

- Type of device
- Item No.
- Position No.
- Year of construction:
- Quantity
- Required mode of dispatch (mail, freight, sea, air, express)
- Address of dispatch

Spare part orders which do not include the above indications may not be taken into consideration. If the indications regarding the mode of dispatch are missing, the product is dispatched at the discretion of the supplier.

You will find information regarding the device type, item No. and year of manufacture on the type plate fixed to the chain hoist.

#### Example

A handwheel for the chain hoist must be ordered.

- Type of device: Chain Hoist K 1000

- Item number: **6202101**- Position No.: **9** 

The order No. is: **0-6202101-09** 

The order number consists of the item number, the position number and one digit in front of the item number.

- Place the digit 0 in front of the item No.
- Also place the digit 0 in front of the position No 1 through 9.



### 12.2 Spare parts drawing

In case of service, the following drawing shall help to identify the necessary spare parts. If necessary, send a copy of the parts drawing with the marked components to your authorised dealer.

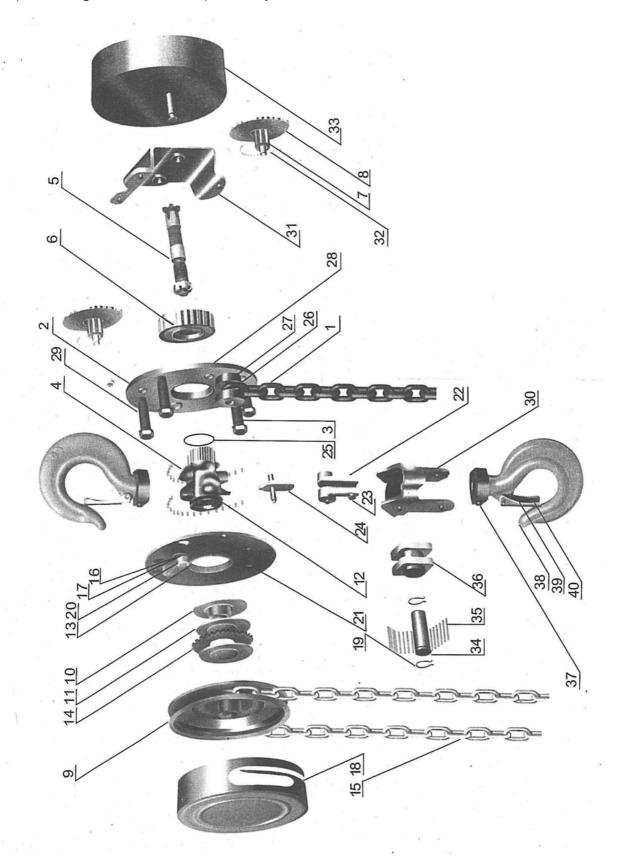


Fig. 6: Spare parts drawing



### 13 EC Declaration of Conformity

According to machine directive 2006/42/EC Annex II 1.A

Manufacturer/distributing company: Stürmer Maschinen GmbH

Dr.-Robert-Pfleger-Str. 26

D-96103 Hallstadt

herewith declares that the following product

Product group: Unicraft® Werkstatttechnik

**Designation of the machine::** K 1000

K 2000 K 3000 K 5000 K 10000

Order number: 6202101

Machine type: Chain Hoist

Serial number :

Year of manufacture: 20\_\_\_\_

complies with all relevant provisions of the above mentioned directive as well as the other applied directives (below) - including their applicable modifications at the time of the declaration.

The following harmonized standards were applied:

DIN EN 13157:2010-07 Cranes - Safety - Hand powered cranes

Person responsible for the documentation: Technical services, Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt

Hallstadt, 18/04/2016

Kilian Stürmer, Manager

CE



### 14 Maintenance plan

	Maintenance plan							K-Series			
40 h	40 h	40 h	200 h	as nec- essary	200 h	as nec- essary	annu- ally				
Oil of the gearing and bearing	Function test of the brake system	Cleaning of the brake disc	Wear test of the brake disc	Replace of the brake disc	Wear measurement of the chain, hook	Replace of the chain, hook	Safety test of the Chain Hoist	date	operating hours	Employee	Signature
_											



