

## TRANSLATION OF THE ORIGINAL INSTRUCTION MANUAL

Travel trolley GHF 500 K

 SWISS QUALITY



## Table of contents

<b>0</b>	<b>General information</b> .....	<b>4</b>
0.1	General safety information .....	4
0.1.1	Safety and hazard precautions .....	4
0.2	General safety specifications and procedures .....	4
0.2.1	Warning paint / Marking / Danger signs.....	4
0.3	Special safety directions.....	4
0.4	Notes on hazard protection .....	5
0.4.1	Hazards caused by mechanical influences.....	5
0.5	Technical status .....	5
0.5.1	Technical data.....	5
0.5.2	Recurrent checks .....	5
0.6	Operational parameters.....	6
0.6.1	Directions for using the instruction manual.....	6
<b>1</b>	<b>Description</b> .....	<b>6</b>
1.1	Operating conditions .....	6
1.2	General functional description .....	7
1.2.1	Side plate.....	7
1.2.2	Spindle.....	7
1.2.3	Wheel flanges .....	7
<b>2</b>	<b>Start-up</b> .....	<b>7</b>
2.1	Transport and assembly .....	7
<b>3</b>	<b>Service and maintenance</b> .....	<b>8</b>
3.1	General regulations for service and maintenance work .....	8
3.2	Service and maintenance .....	9
3.2.1	Maintenance overview.....	9
3.2.2	Service overview .....	9
3.3	Ordering spare parts .....	9
<b>4</b>	<b>Measures for obtaining a safe period of operation</b> .....	<b>9</b>
4.1	Determining the actual utilization period S.....	9
4.2	General overhaul.....	9
<b>5</b>	<b>Appendix</b> .....	<b>10</b>
5.1	Technical data and figures .....	10
5.2	EC Declaration of conformity.....	12
5.3	EC Declaration of incorporation.....	13

## Spare parts / Ordering spare parts

The correct order numbers for the original spare parts can be found in the spare parts list. Please enter the following data on your travel trolley, so that you always have it to hand, and the required parts are delivered quickly.

Travel trolley type : .....

Year of manufacture : .....

Load capacity : .....

Original spare parts for the travel trolleys can be acquired from the following addresses:

### 1. Manufacturer

GIS AG  
Swiss Lifting Solutions  
Luzernerstrasse 50  
CH-6247 Schötz

Tel. +41 (0)41 984 11 33  
Fax +41 (0)41 984 11 44

tel@gis-ag.ch  
www.gis-ag.ch

### 2. Agent

.....  
.....  
.....  
.....  
.....  
.....

## 0 General information

### 0.1 General safety information

#### 0.1.1 Safety and hazard precautions

The following symbols and terms are used in this instruction manual when giving safety warnings:



#### **DANGER !**

Non-compliance, either in part or full, with work or operational instructions marked with this symbol can result in serious personal injury or even death. Warning instructions must be **strictly** complied with.



#### **CAUTION !**

Non-compliance, either in part or full, with work and operational instructions marked with this symbol can result in major damage to machinery, property or materials.

Cautionary notices must be **strictly** adhered to.



#### **NOTE**

Effective and simple operation is the result of following the directions noted under this symbol.

These notes make your work easier.

### 0.2 General safety specifications and procedures

The instruction manual for the travel trolleys must be kept in the area where the trolley is used. The instructions contained in this manual must be strictly adhered to. Furthermore, in addition to the instruction manual, any statutory regulations governing general accident prevention and environmental protection are to be observed.

Operating and service personnel must have read and understood the operating instructions, in particular the safety instructions, before commencing work. Protective gear for operating and service personnel must be made available and worn at all times. The operator or his designated representative is responsible for the safety and hazard awareness of the operating personnel and are responsible for the supervision thereof.

#### 0.2.1 Warning paint / Marking / Danger signs

- CE symbol.....figure 0-1
- Data plate.....figure 0-2

### 0.3 Special safety directions

#### **Transport and assembly:**

- Travel trolleys, single parts and large components are to be carefully attached to suitable and technically acceptable hoisting equipment / load lifting members

#### **Connection:**

- Connection work may only be carried out by personnel specifically trained for the job

#### **Start-up / operation:**

- Before initial start-up, as well as at daily start-up, carry out a visual check and the prescribed user checking routine
- Do not neglect any procedures that affect safety
- Only operate the travel trolley when the available protection and safety equipment is fully functional
- Damage to the travel trolley and any changes in its operational performance must be immediately to a responsible person
- After use, or when in non-operational mode, the travel trolley should be secured to prevent unauthorised and improper use
- Transport of persons is not allowed
- Moving loads above persons is not allowed
- Persons are not allowed to remain below moving loads
- Moving excessive loads is not allowed
- Do not pull on the control cable
- Always monitor and control the load

See also "Intended application" (chapter 0.6)

#### **Cleaning / service / repair / maintenance / refitting:**

- For assembly work above body height, the necessary working platforms or ladders must be made available
- Do not use machine parts for this purpose
- For reasons of safety and to protect the environment, take care when draining oils or using other consumables, disposing of them carefully
- Safety apparatus that has been disassembled to enable the trolley to be serviced or repaired must be reassembled and checked after the service and repair work has been completed

- The testing and service intervals laid down in the instruction manual must be adhered to
- Directions laid down in the instruction manual regarding the exchange of parts must be followed
- Operating personnel are to be informed before commencing special or refitting work
- The working area where repairs are being carried out should be secured
- Warning signs must be positioned
- Screw connections that have been loosened for repair or service work must be re-tightened
- Parts that are not reusable, such as O-rings, gaskets, self-locking nuts, split-pins and washers are to be replaced

**Shut down / storage:**

- Before long periods of inactivity or storage, the travel trolleys must be cleaned and protected with oil or grease

**0.4 Notes on hazard protection**

Hazard areas must be clearly marked with warning signs and cordoned off. It is vital that warnings regarding hazardous areas are given due attention.

**Hazards can arise as a result of:**

- incorrect use
- inadequate adherence to safety instructions
- carrying out testing and service work incompletely or inadequately

0.4.1 Hazards caused by mechanical influences

**Personal injury:**



**DANGER !**

**Unconsciousness and injury as a result of:**

- crushing, pinching, cutting and twisting
- drawing into the machinery, jolting, piercing and rubbing
- slipping, stumbling and falling

**Source:**

- crush, pinch and twist areas
- fracture or bursting of parts

**Protective measures:**

- floor, equipment and machinery are to be kept clean
- eliminate leakages
- keep at a safe distance

**0.5 Technical status**

The present document was written in 2008. It corresponds to European Parliament Directive 2006/42/EC and that of the Council on 17 May 2006.

0.5.1 Technical data

0.5.1.1 Models GHF .....table 0-2

0.5.2 Recurrent checks

Every operator of the equipment must note in the inspection booklet all checks, maintenance and inspection work that have been carried out, and this must be confirmed by the competent person in charge. Incorrect or missing entries may lead to the manufacturer's warranty no longer being valid.



**CAUTION !**

All equipment and cranes are to be periodically tested by a specialist, basically, visual and functional checks are to be performed where the condition of the components is assessed with regard to damage, wear, corrosion or other changes. In addition, the completeness and efficiency of the safety devices must be inspected. In order to correctly assess the condition of wearing parts, it may be necessary to dismantle the equipment.



**CAUTION !**

The load bearing components must be inspected over their entire length, including covered or hidden parts.



**CAUTION !**

All periodical inspections are to be arranged by the operator.

## 0.6 Operational parameters

The GHF series of travel trolleys have differing load capacities. Travel trolleys are manufactured in accordance with the latest technical developments and the known technical safety regulations and specifications, and have been tested for safety by the manufacturer.

Travel trolleys are approved by various international institutes, such as TÜV and others. This series of travel trolleys may only be used when in an acceptable technical condition, in accordance with their operating parameters and by personnel who are aware of safety and potential hazards.

The operational parameters of the travel trolleys also encompass compliance with the pre-defined operating, service and maintenance requirements laid down by the manufacturer.

The operational parameters do not include:

- exceeding the defined load capacity
- pulling the load diagonally
- heaving, pulling or dragging the load

See also chapter 0.3.

Driving against the limit switches should be avoided. The manufacturer accepts no responsibility for damage to equipment and third parties ensuing from such action.

### 0.6.1 Directions for using the instruction manual

This instruction manual includes the following chapters:

0	General information	4	Measures for obtaining a safe period of operation
1	Description		
2	Start-up	5	Appendix
3	Service and maintenance		

Supplementary to the instruction manual, the following documentation from the operator must be noted:

- Declaration of conformity
- Log book
- Spare parts list(s)

#### Page and figure numeration:

The pages are consecutively numbered. Blank pages are not numbered, however are calculated together with the consecutive pages.

Figures are numbered consecutively by chapter.

Example:

Figure 3-1 means: in chapter 3, figure 1

## 1 Description

#### General:

The series consists of the following models:  
GHF

### 1.1 Operating conditions

#### Classification according to application:

The travel trolleys are classified into ISO Groups according to the following standards:

- DIN EN 14492-2
- FEM calculation regulations for series lifting equipment (full load-life span)
- ISO 4301-1: D (M3) = 400 h
- Specifications for general overhauls (see chapter 4)

There are differing guidelines for the ISO Groups that must be adhered to in operation.



#### CAUTION !

The travelling trolley is always classified into the same ISO Group as the associated electric chain hoist.



#### NOTE

The ISO Group registration number of the travel trolley can be found on the model plate.

The manufacturer will only guarantee safety and service life when the travel trolley is used for applications that fall within its valid ISO Group guidelines.

Before the first start-up, the user has to assess which one of the four types of load is correct for the use of the travel trolley during its whole service life according to table 1-1. Table 1-2 shows standard values for the operating conditions of the ISO Groups depending on the type of load and the time of operation.

Determining the correct application for a travel trolley:  
The correct type of application for a travel trolley can be determined from either the running time or from the expected type of load.



**CAUTION !**

Before starting to operate the travel trolley, first determine which of the load types shown in table 1-1 for the travel trolley will be used. The classification of a load type, or a collective load, (k), is for the complete operational life of the equipment and may not be altered for reasons of operational safety.

Example 1: Determining the permissible operational time of a travel trolley:

An ISO Group M4 travel trolley is to be used for medium loads throughout its entire service life. This corresponds to the load type <3 heavy> (see table 1-1). From the values in table 1-2, the travel trolley should not be used for longer than 0.5 - 1 hour per working day.

Example 2: Determining the permissible load type:

An ISO Group M5 travel trolley is to be used for approximately 6 hours per working day throughout its entire service life. Thus the travel trolley should be operated in accordance with the characteristics of load type <1 light> (see table 1-1).

## 1.2 General functional description

### 1.2.1 Side plate (figure 1-1 / 1)

The side plate is made of a sturdy die-cast aluminium and fitted with fall protection. One spindle is required for assembly.

### 1.2.2 Spindle (figure 1-1 / 2)

The spindle is made of special steel. Depending on the flange with, two large washers (2a) and several small washers (2b) are used. The hexagonal nut (2c) is secured with the lock nut (2d). The torque applied to the hexagonal nut must always be as in table 0-2.

### 1.2.3 Wheel flanges (figure 1-1 / 3)

For travel trolleys, four smooth wheel flanges (3) are needed. They are made of glass fibre reinforced plastic and mounted in ball bearings. The torque applied to the axle bolt (4) must always be as in table 0-2.

## 2 Start-up



**DANGER !**

Mechanical adjustments may only be carried out by authorized, competent personnel.



**CAUTION !**

The operating staff must carefully read the operating instructions for the electric travel trolleys before its initial operation and carry out all necessary checks. Only when safe operation has been established may the device be put into operation. Unauthorized persons may not operate the device or work with it.

### 2.1 Transport and assembly

When transporting and assembling the electric travel trolley, the safety instructions for handling loads are to be followed (see chapter 0.3).  
The electric travel trolleys must be assembled by qualified staff, always bearing in mind the accident prevention instructions in chapter 0.2. Before assembly the electric travel trolley must be stored in an enclosed room or covered area.  
Should the electric travel trolley be used outdoors, then it is recommended that a protective cover is erected to shield it from the weather.  
Wherever possible, the electric travel trolley should be transported in its original packaging. Check that the delivery is complete and dispose of the packaging material in an environmentally friendly manner. It is recommended that the assembly and connection of the electric travel trolley is carried out on-site by our qualified customer service personnel.

**Verifying the carrying capacity:**

The carrying capacity must correspond to at least that of the electric chain hoist.

**How to mount the travel trolley:**

The two side plates mounted on the spindle make up the travel trolley. The spindle is to be mounted from the inside to the outside, as shown in figure 1-1. When doing so, please observe that there is the same number of washers (2b) on both sides.

**CAUTION !**

The flange width of the carrier must be within the clamping area of the spindles supplied. Clearance between wheel flanges (3) and carrier may not exceed 1.5 mm. A washer (2b) must always be placed between the shield (1) and the hexagonal nut (2c). The torque applied to the hexagonal nut must always be as in table 0-2. Screw on the locknut (2d) until it is hand tight, then tighten with a spanner by 1/4 or 1/2 of a turn.

**CAUTION !**

Do not re-use locknuts (2d) according to DIN 7967.

### 3 Service and maintenance

#### 3.1 General regulations for service and maintenance work

Operating failures on the electric travel trolleys impair the safe operation of the device, and must be resolved immediately.  
The electric travel trolley may only be serviced by trained and authorized specialists.

**NOTE**

We recommend that maintenance work is carried out by our customer service department.

**CAUTION !**

If the operator performs maintenance work on an electric travel trolley on his own account, the type of maintenance work must be entered in the inspection booklet together with the date.

Alterations, changes and add-ons to the electric travel trolleys that may affect safety must be authorized by the manufacturer in advance. The manufacturer will not be liable for any claim where alterations to the construction of the travel trolleys have not been authorized by the manufacturer.

Material warranty claims will only be considered if only genuine spare parts from the manufacturer have been used.

We wish to point out explicitly that those original parts and accessories not supplied on our behalf cannot be inspected or approved by us.

**General:**

Service and maintenance are preventive measures designed to enhance the full functionality of the electric travel trolleys. Non-compliance with the service and maintenance routines can result in a reduction of the useful function of and/ or damage to the electric travel trolleys.

Service and maintenance work is to be carried out at the specified time intervals in accordance with the instruction manual (table 3-1 and 3-2).

During service and maintenance work the general accident prevention instructions, special safety instructions (chapter 0.3) and the notes on hazard protection (chapter 0.4) are to be observed.

**DANGER !**

Service and maintenance work is only to be carried out on unloaded electric travel trolleys.

The maintenance work encompasses visual checks and cleaning routines. Service work includes additional functional checks.

During the functional checks, all fasteners and cable clamps must be checked for security.

Cables must be inspected for dirt, discoloration and arc spots.

**CAUTION !**

Used operating fluids (oil, lubricants ...) are to be safely collected and disposed of in an environmentally friendly manner.

Service and maintenance intervals are defined as follows:

d .....: daily  
3 M .....: quarterly  
12 M .....: annually

The specified service and maintenance intervals are to be reduced when the loading of the electric travel trolley is greater than average and when unfavourable conditions occur frequently during operation (dust, heat, humidity, steam etc.).



### 3.2 Service and maintenance

The travel trolleys require almost no maintenance.  
The rollers should be periodically checked for wear and changed if necessary. If unusual noises are heard during use, report this to a competent person immediately. The repairs must be carried out immediately.

#### 3.2.1 Maintenance overview

See table 3-1.

#### 3.2.2 Service overview

See table 3-2.

### 3.3 Ordering spare parts

Notes on how to order spare parts can be found on page 3.

## 4 Measures for obtaining a safe period of operation

The statutory and health requirements of EU regulations stipulate that specific dangers which may arise from fatigue or ageing must be prevented.  
In accordance with this, the operator of the serial trolleys is obliged to determine the actual utilization. The actual utilization period is determined and documented during the annual inspection by customer service engineers. A general overhaul must be carried out when the theoretical utilization limit is reached, or after no more than 10 years. All checking and the general overhaul itself must be arranged by the operator of the travel trolley.

The following theoretical utilization period applies to travel trolleys that are classified according to ISO 4301-1 (converted into full-load hours):

M3	M4	M5	M6	M7
400 h	800 h	1600 h	3200 h	6300 h

### 4.1 Determining the actual utilization period S

The actual utilization period depends on the daily operating time and the collective load. The running time is determined in accordance with information provided by the operator or recorded using a meter that counts the number of operating hours. The load collective is determined in accordance with table 1-1. These two items of information are used to calculate the annual utilization period from table 4-1.



#### CAUTION !

The utilizations times, calculated periodically, must be documented in the inspection pass.

### 4.2 General overhaul

On reaching the end of the theoretical service life (no later than 10 years where there is no data collection system), a general overhaul must be performed. Here the device is brought back to a condition that allows safe operation for another period of utilization (service life). Components must be inspected and/ or exchanged according to table 4-2. The inspection must be carried out by either a specialist company authorized by the manufacturer, or by the manufacturer himself, as must the approval for further use. The inspector determines:

- the new theoretical utilization
- the maximum period until the next general overhaul

This data is to be documented in the inspection booklet.

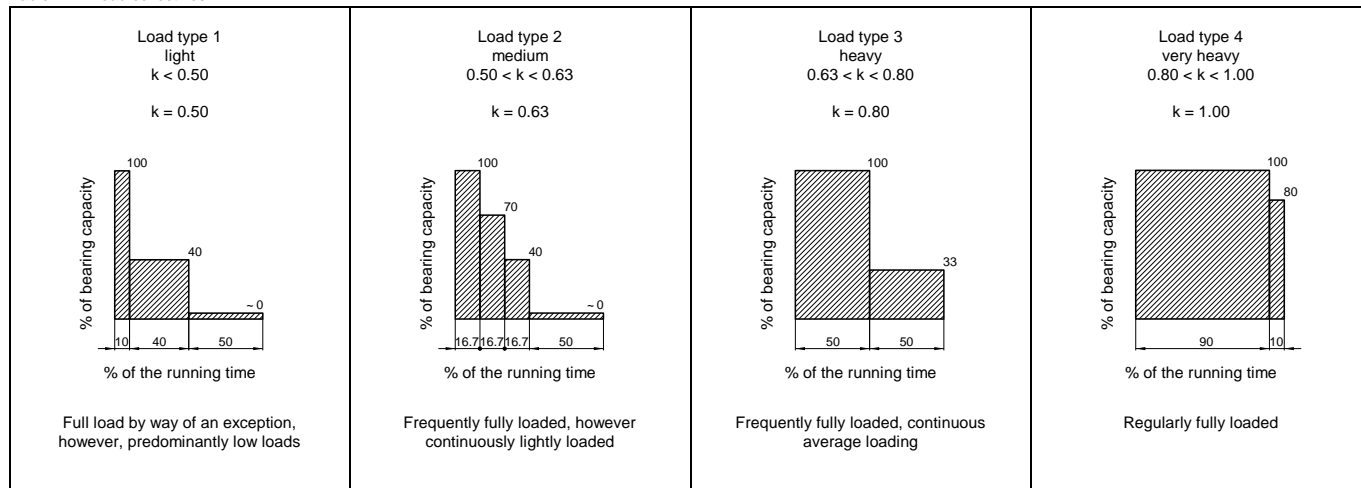
# 5 Appendix

## 5.1 Technical data and figures

Table 0-2 GHF technical data

ISO (FEM) classification	M3 (1Bm) 150 s/h 25% duty	M4 (1Am) 180 s/h 30% duty	M5 (2m) 240 s/h 40% duty	M6 (3m) 300 s/h 50% duty	M7 (4m) 360 s/h 60% duty	Travelling speed	Motor power (M3)	3 x 400V 50Hz (M3)	Torque spindle	Torque axle bolt	Dead weight	Connection fuse with hoist
Types	Capacity [kg]					[m/min]	[kW]	[A]	[Nm]	[Nm]	[kg]	[A]
GHF 500 K	500	500	500	400	320	-	-	-	130 - 150	30	2.6	-

Table 1-1 Load collectives



k = Load collective (type of load)

Table 1-2 Operating conditions

ISO Group according to ISO 4301-1	M3	M4	M5	M6	M7
Load collective	Average running time per working day [h]				
1 - light $k < 0.50$	up to 2	2 - 4	4 - 8	8 - 16	over 16
2 - medium $0.50 < k < 0.63$	up to 1	1 - 2	2 - 4	4 - 8	8 - 16
3 - heavy $0.63 < k < 0.80$	up to 0.5	0.5 - 1	1 - 2	2 - 4	4 - 8
4 - very heavy $0.80 < k < 1.00$	up to 0.25	up to 0.5	0.5 - 1	1 - 2	2 - 4

Table 4-1 Annual service life

Utilization per day [h]	$\leq 0.25$ (0.16)	$\leq 0.50$ (0.32)	$\leq 1.0$ (0.64)	$\leq 2.0$ (1.28)	$\leq 4.0$ (2.56)	$\leq 8.0$ (5.12)	$\leq 16.0$ (10.24)	$> 16.0$ (20.48)
Load collective	Annual service life [h]							
k = 0.50	6	12	24	48	96	192	384	768
k = 0.63	12	24	48	96	192	384	768	1536
k = 0.80	24	48	96	192	384	768	1536	3072
k = 1.00	48	96	192	384	768	1536	3072	6144

Table 4-2 General overhaul

Components of GHF models	Check for wear *	Replace
Side plate	x	
Spindle	x	
Wheel flanges		x

\* replace when worn

Table 3-1 Maintenance overview

Term	d	3 M	12 M	Activity	Notes
Travel trolley	X			excess noise check	

Table 3-2 Service overview

Term	d	3 M	12 M	Activity	Notes
Spindle			X	check for cracks check screw movement	

Figure 0-1

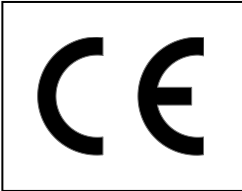
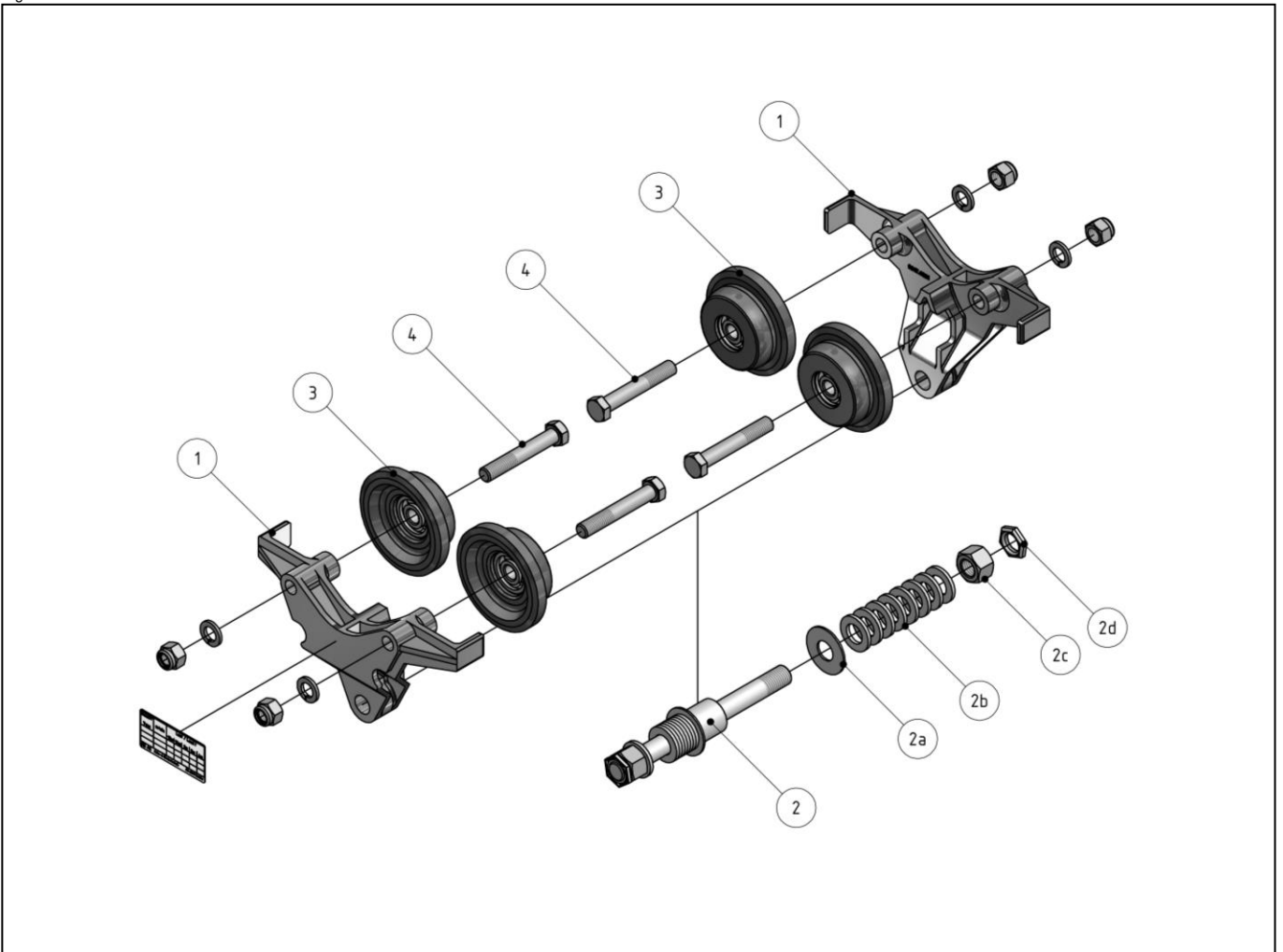


Figure 0-2

Fahrwerk Travel trolley	m/min	Last / Load t				
		M3	M4	M5	M6	M7
GHF 500 K	-	0.5	0.5	0.5	0.4	0.32

GIS AG Hebe- & Fördertechnik CH-6247 Schötz

Figure 1-1





## EC DECLARATION OF CONFORMITY

Declaration for a machinery according to the EU directives 2006/42/EC, Annex II A

Hereby we,

**GIS AG, Swiss Lifting Solutions, Luzernerstrasse 50, CH-6247 Schötz**

declare that the machinery

**GIS push travel trolley, series  
with a load capacity of**

**GHF  
320 kg - 500 kg**

developed for manual travelling of loads, is, in standard production and from the 2008 model year, inclusive of load control, meets the essential requirements of the following EC directives, as applicable to the scope of the delivery:

EC Machinery Directive

2006/42/EC

### Harmonized standards applied:

ISO 2374

Lifting appliances; Range of maximum capacities for basic models

### Standards and technical specifications applied:

FEM 9.755

Measure for achieving safe working periods

### Authorized to compile relevant technical documentation:

GIS AG, Luzernerstrasse 50, CH-6247 Schötz

Schötz, 20.01.2016

**GIS AG**

I. Muri  
Director

E. Widmer  
Sales Manager

The completion, installation and start-up as per instruction manual is documented in the log book.



## EC DECLARATION OF INCORPORATION

Declaration for the incorporation of a partly completed machinery according to the EU directives 2006/42/EC, Annex II B

Hereby we,

**GIS AG, Swiss Lifting Solutions, Luzernerstrasse 50, CH-6247 Schötz**

declare that the partly completed machinery



**GIS push travel trolley, series  
with a load capacity of**

**GHF  
320 kg - 500 kg**

developed for manual travelling of loads, is, in standard production and from the 2008 model year, inclusive of load control, intended for installation in machinery and meets the essential requirements of the following EC directives, as applicable to the scope of the delivery:

EC Machinery Directive

2006/42/EC

We also declare that the technical documentation has been compiled in accordance with Annex VII, Part B of Directive 2006/42/EC. We undertake to submit the specific documents relating to the travelling mechanism to national authorities on receipt of a reasonable request. The information will be supplied by electronic means.

### Harmonized standards applied:

ISO 2374

Lifting appliances; Range of maximum capacities for basic models

### Standards and technical specifications applied:

FEM 9.755

Measure for achieving safe working periods

**This declaration only refers to the travelling mechanism. A start up is prohibited until its proven that the complete system where the travelling mechanism is built in corresponds with the above EC directives.**

### Authorized to compile relevant technical documentation:

GIS AG, Luzernerstrasse 50, CH-6247 Schötz

Schötz, 20.01.2016

**GIS AG**

I. Muri  
Director

E. Widmer  
Sales Manager

The completion, installation and start-up as per instruction manual is documented in the log book.