

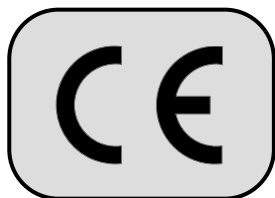
INSTRUCTION MANUAL

Travel trolley EHF 50/150/300/500 • EMFE 50/150/300/500

EURO-MODEL 2000

+ SWISS QUALITY

EHF
EMFE



M A D E I N S W I T Z E R L A N D



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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 :

Manufacture number :

Year of manufacture :

Load capacity :

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

1. Manufacturer

GIS AG
Hebe- und Fördertechnik
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 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 regulations and organizational issues

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 Hazard symbols / Markings / Warning signs

- CE symbol.....figure 0-1
- Model platefigure 0-2
- Data plate.....figure 0-3

0.3 Special safety instructions

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:

- For assembly work above body height, the necessary working platforms or ladders must be made available
- Do not use machine parts for this purpose
- Check the electrical cable for damage or wear
- 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
- During service or repair work, the travel trolleys should be secured to prevent unauthorized switching on
- Warning signs must be positioned
- The power cable is to be disconnected and secured against unauthorized connection
- Screw connections that have been loosened for repair or service work must be retightened
- 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 Mechanical hazards

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

0.4.2 Electrical hazards

Work on electrical apparatus or machinery may only be carried out by qualified electricians or persons under the supervision and guidance of qualified electricians, in accordance with the electrical regulations laid down.

Personal injury:



DANGER !

Death as a result of electrical shock, injury and burns arising from:

- contact
- faulty insulation
- faulty servicing or repair work
- short circuits

Source:

- contact with, touching of or standing too close to uninsulated electrical components
- use of uninsulated tools
- exposed electrical components following breakdown of insulation
- inadequate execution of safety checks following repair work
- incorrect fuses installed

Protective measures:

- machinery and equipment that is to be inspected, repaired or serviced should be isolated before work commences
- first check that isolated components are not live
- regularly check electrical fittings
- change loose or damaged cables immediately
- blown fuses must be replaced with fuses of the same rating
- avoid contact with or touching live components
- only use insulated tools

0.4.3 Noise level

Tests on the travel trolley's noise level are to be performed at a range of 1, 2, 4, 8 and 16 meters from the centre of the travel trolley motor to the measuring device.

Measurement of SPL according to DIN 45 635.

The noise level was measured:

- a) during operation of travel trolleys in a factory
 - b) during operation in the open
- See table 0-1.

0.5 Technical status

The present document was written in 2008. It corresponds to European Parliament Directive 98/37/EC (2006/42/EC) and that of the Council on 22.06.1998.

0.5.1 Technical data

0.5.1.1 Models EHF/EMFE.....table 0-2

0.5.2 Recurring 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 Intended application

The EHF and EMFE 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 BG 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 operating, service and maintenance requirements laid down by the manufacturer.

The intended application does not include:

- exceeding the specified load capacity
- pulling of the load at an angle
- cutting loose, pulling or dragging the load

See also chapter 0.3.

Inching operations, and driving against the limit switches should be avoided. The manufacturer accepts no responsibility for damage to equipment and third parties arising from such action.

0.6.1 Notes on using the instruction manual

This instruction manual includes the following chapters:

0	General	4	Steps to ensure a safe operational life
1	Description	5	Appendix
2	Start-up instructions		
3	Service and maintenance		

In addition to the instruction manual, the operator must observe the following documentation:

- Declaration of conformity
- Inspection booklet
- Spare parts list(s)
- Circuit diagrams

Page and diagram numbering:

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

Diagrams are numbered consecutively by chapter.

Example:

Figure 3-1 means: Chapter 3, Figure 1

1 Description

General:

The series consists of the following models:
EHF, EMFE

1.1 Operating conditions

Classification according to application:

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

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

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



CAUTION !

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



NOTE

The FEM 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 FEM 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 FEM 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 FEM 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 FEM 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 sturdy cast iron and fitted with fall protection. Depending on the model, either one or two spindles are required for assembly.

1.2.2 Spindle (figure 1-1 / 2)

The spindle is made of special steel. Depending on the length, two sleeves (2a), two large washers (2b) and several small washers (2c) are used. The hexagonal nut (2d) is secured with the lock nut (2e).

1.2.3 Counterweight (figure 1-1 / 3)

The counterweight is needed in an electric travel trolley, to compensate for the weight of the drive motor and controller.

1.2.4 Wheel flanges (figure 1-1 / 4a, 4b)

For push travel trolleys, four smooth wheel flanges (4a) are needed, while for electric travel trolleys, two smooth wheel flanges and two toothed wheel flanges (4b) are required. They are made of cast iron and mounted in ball bearings.

1.2.5 Drive (figure 1-1 / 5)

GIS electric travel trolleys are driven by induction motors. On two speed models, a pole-changing version of the engine is fitted. The motors comply with the statutory provisions and FEM calculation rules for travel trolleys. The winding meets the requirements of insulation class F.

A spur gear (-N; -S) reduces the speed of the motor to the wheel flange.

1.2.6 Electrical control (figure 1-1 / 6)

The motorized carriages are equipped with a 42 V contactor control as standard. The built in emergency stop contactor disconnects all three mains phases when the red button is pressed.

1.2.7 Brake (figure 1-1 / 7)

An optional DC brake can be attached to the drive motor.

1.2.8 Control switch (figure 1-2)

The standard version of the electric travel trolley includes a control switch (up / down and forward / back with emergency stop). The emergency stop contact in the control switch cuts the contactor supply circuit.

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.

2.1.1 Push travel trolley

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 (2c) on both sides. For spindles with narrow flange widths, the two bushes (2a) should be omitted.



CAUTION !

The flange width of the carrier must be within the clamping area of the spindles supplied. Clearance between wheel flanges (4a, 4b) and carrier may not exceed 1.5 mm. A washer (2c) must always be placed between the shield (1) and the hexagonal nut (2d). The torque applied to the hexagonal nut must always be as in table 0-2. Screw on the locknut (2e) 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 (2e) according to DIN 7967.

2.1.2 Electric travel trolley

To check the carrying capacity and assembly of the travel trolley, see chapter 2.1.1. The counterweight (3) is bolted to the side plate (1) with the smooth wheel flanges (4a), the drive (5) with the control system (6) to the side plate (1) with toothed wheel flanges (4b). A brake unit (7) can be retrofitted to all travel trolleys.

2.2 Connection

2.2.1 Electrical connection



DANGER !

Electrical adjustments may only be carried out by authorized specialists.

When connecting the electric travel trolley to the mains power supply, the mains connection cable, connection fuse and main switch must be installed by the customer beforehand.

A 4-core cable with a polythene insulated earth conductor is needed to provide the power supply for three-phase models. A 3-core insulated cable with earth conductor is adequate for single-phase models. The length and the cross-section must be dimensioned to suit the power consumption of the electric travel trolley and the electric chain hoist.

- Before connecting the motorized carriage, check the model plate to ensure the operating voltage and frequency are the same as that of the power supply to be used
- Remove the control box lid
- Thread the connecting cable gland with the M25 x 1.5 cable gland into the lower hole and connect up to the L1, L2, L3 and PE terminals in accordance with the wiring diagram supplied
- Thread the control cable with the M25 x 1.5 cable gland into the hole at the bottom of the housing and connect up in accordance with the wiring diagram supplied. Attach the cord grip to the housing



DANGER !

The earth conductor is not to carry any current.

When operating with an electric chain hoist, a connecting cable is connected to the drive motor. When using a motor protection switch, observe the current as shown on the nameplate of the electric travel trolley and the electric chain hoist.



CAUTION !

- Checking direction of rotation: If the direction of rotation does not correspond with the button symbols on the control switch, power supply wires L1 and L2 must be swapped round.



NOTE

Open the terminal in accordance with figure 2-1.

3 Service and maintenance

3.1 General guidelines 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 main switch must be off.

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:

- t : 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 summary

See table 3-1.

3.2.2 Service summary

See table 3-2.

3.2.3 Gearbox

The gearbox of the electric travel trolley has permanent lubrication.

Lubricant.....: Strub N1424
Can be mixed and is compatible with all other brand name greases that are of a compatible type (DIN 51502: GP OM-20)

Lubrication quantity : 0.1 kg

3.3 Ordering spare parts

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

4 Steps to ensure a safe operational life

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 How to determine the effective service life 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.

If a production data collection system is used, the actual utilization can be read off directly by our specialists during the annual inspection.



CAUTION !

The utilizations times, whether calculated periodically or read-off, must be documented in the inspection booklet.

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

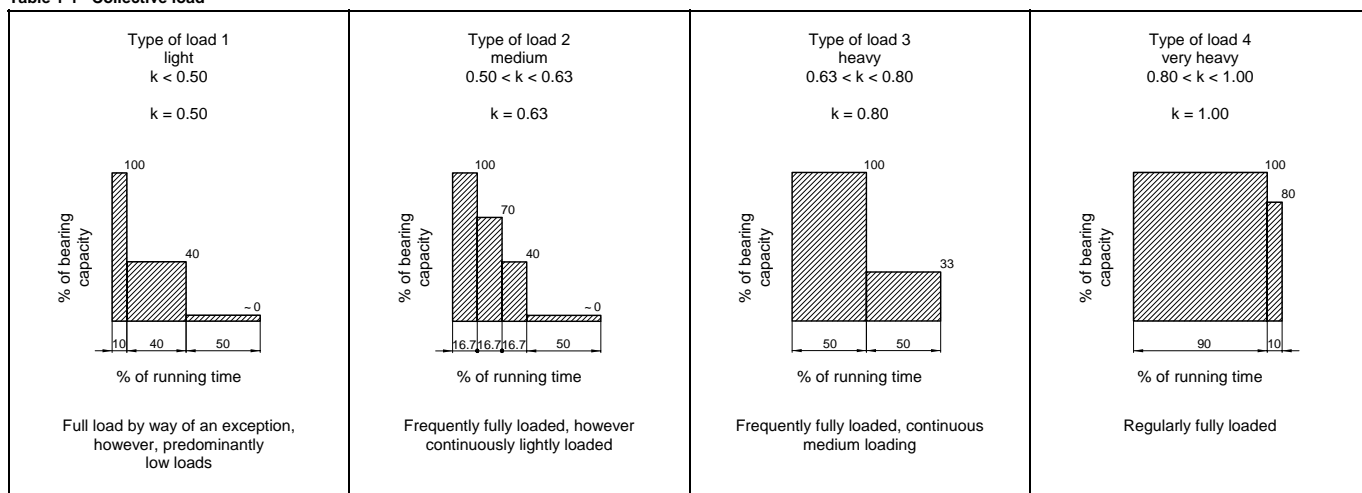
This data is to be documented in the inspection booklet.

5 Appendix

Table 0-2 Technical data EHF/EMFE

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	Dead weight	Connection fuse with hoist
Types	Capacity [kg]					[m/min]	[kW]	[A]	[Nm]	[kg]	[A]
EHF 50	1'000	800	630	630	500	-	-	-	130	7.5	-
EMFE 50/N	1'000	800	630	630	500	12	0.25	0.8	to	27	10
EMFE 50/NF	1'000	800	630	630	500	12/4	0.15/0.045	0.65/0.75	to	27	10
EMFE 50/SF	800	800	630	630	500	20/6	0.15/0.045	0.65/0.75	500	27	10
EHF 150	2'000	2'000	1'600	1'600	1'250	-	-	-	320	13.5	-
EMFE 150/N	2'000	2'000	1'600	1'600	1'250	12	0.25	0.8	to	31	10
EMFE 150/NF	2'000	2'000	1'600	1'600	1'250	12/4	0.15/0.045	0.65/0.75	to	31	10
EMFE 150/SF	1'600	1'600	1'600	1'600	1'250	20/6	0.15/0.045	0.65/0.75	540	31	10
EHF 300	4'000	4'000	3'200	2'500	2'500	-	-	-	430	27.5	-
EMFE 300/N	4'000	4'000	3'200	2'500	2'500	12	0.25	0.8	to	50	16
EMFE 300/NF	4'000	4'000	3'200	2'500	2'500	12/4	0.15/0.045	0.65/0.75	to	50	16
EMFE 300/SF	3'200	3'200	3'200	2'500	2'500	20/6	0.15/0.045	0.65/0.75	500	50	16
EHF 500	5'000	4'000	3'200	3'200	2'500	-	-	-	430	27.5	-
EMFE 500/N	5'000	4'000	3'200	3'200	2'500	12	2x0.25	2x0.8	to	57	16
EMFE 500/NF	5'000	4'000	3'200	3'200	2'500	12/4	2x0.15/0.045	2x0.65/0.75	to	57	16
EMFE 500/SF	4'000	4'000	3'200	3'200	2'500	20/6	2x0.15/0.045	2x0.65/0.75	500	57	16

Table 1-1 Collective load



k = Collective load (type of load)

Table 0-1 Noise level

Types	Measuring distance	1 m	2 m	4 m	8 m	16 m
	Measurement	dBA				
EMFE 50/150/300	a)	75	72	69	66	63
	b)	75	69	63	57	51
EMFE 500	a)	75	72	69	66	63
	b)	75	69	63	57	51

Table 4-1 Annual service life

Utilization per day [h]	<= 0.25 (0.16)	<= 0.50 (0.32)	<= 1.0 (0.64)	<= 2.0 (1.28)	<= 4.0 (2.56)	<= 8.0 (5.12)	<= 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 1-2 Operating conditions

ISO Group according to ISO 4301-1	M3	M4	M5	M6	M7
Collective load	Mean 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 4-2 General overhaul

EHF and EMFE models All types of components	Check for wear *	Exchange
Brake	x	
Motor shaft	x	
Gear teeth		x
Antifriction bearing		x
Washers		x
Spindle	x	
Wheel flanges	x	
Contactors	x	

* exchange when worn

Table 3-1 Maintenance summary

Term	t	3 M	12 M	Activity	Notes
1. Travel trolley	X			excess noise check seal check	
2. Power supply cable	X			visual check	
3. Seal		X		visual check	
4. Cable discharging device control cable	X			visual check	

Table 3-2 Service summary

Term	t	3 M	12 M	Activity	Notes
1. Brake system	X		X	function check with load	
2. Electrical fittings			X	function check	
3. Spindle			X	check for cracks check screw movement	
4. Gearing			X	visual check for abrasion	see chapter 3.2.3

Figure 0-1



Figure 0-2

Fabr. Nr. / Ser. no.	254 00	
Bauart / Type		
V	Hz	Insul. Klasse Inss. Class
KW	FEM 1-fall	A FEM 1-fall
m/min	1-fall	m/min 2-fälle
GIS AG Hebe- & Fördertechnik CH-6247 Schötz		

Figure 0-3

Modell / Model		
FEM 9.511	Gruppe Group	1-str. / 1 Fall 2-str. / 2 Fälle
Last / Load	t	
ED / Duty %; Sh		
Kette / Chain	FEM 9.571	Baujahr Year
GIS AG Hebe- & Fördertechnik CH-6247 Schötz		

Figure 1-2

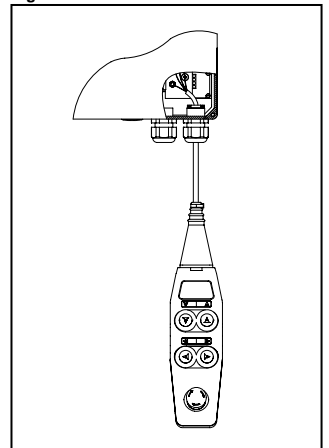


Figure 1-1

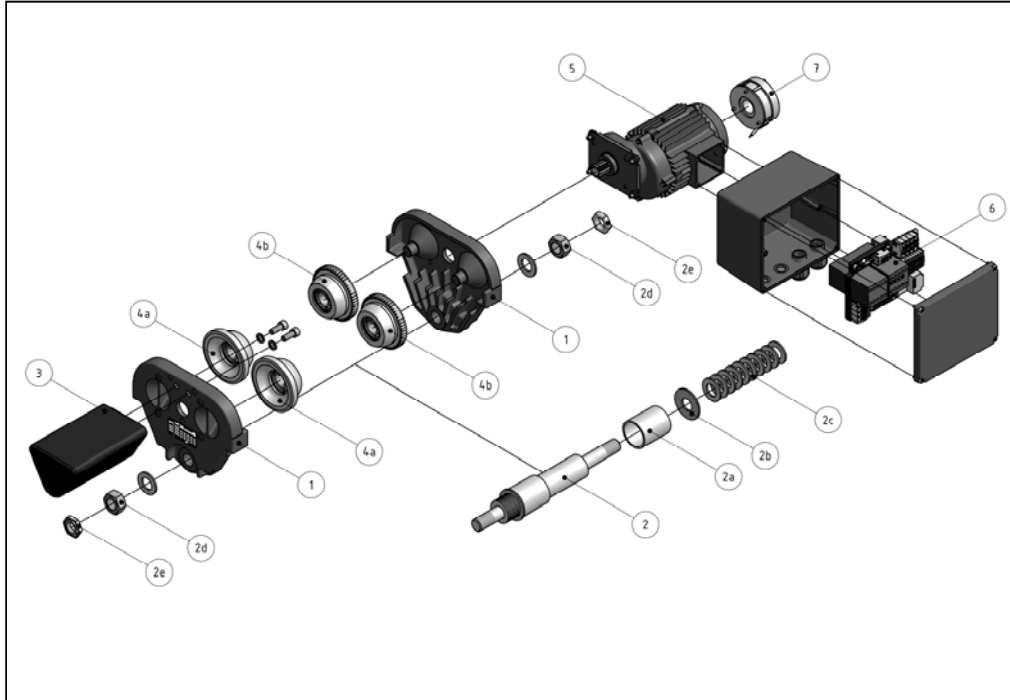
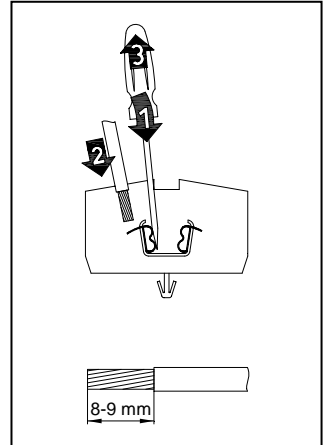


Figure 2-1



EC-DECLARATION OF CONFORMITY

as defined by EC directive 98/37/EC (2006/42/EC), Annex II A, 89/336/EEC, Annex I and 2006/95/EC, Annex III

We,

GIS AG, Hebe- und Fördertechnik, CH-6247 Schötz

hereby declare that the product



**GIS travel trolley, model
capacity range**

**EHF, EMFE
500 kg - 5000 kg**

in serial production, from year of manufacture 1994

complies with the following provisions that apply:

EC Machinery Directive	98/37/EC (2006/42/EC)
EC Directive for Electromagnetic Compatibility	89/336/EEC
Modified by	92/31/EEC, 93/68/EEC
EC Low Voltage Directive	2006/95/EC

Applied harmonized standards:

EN ISO 4301-1	Cranes and lifting appliances, Classification, Part 1: General
EN ISO 12100-1	Safety of machinery, Basic terminology
EN ISO 12100-2	Safety of machinery, Technical principles
DIN EN 818-7	Short link chain for lifting purposes, Safety, Fine tolerance hoist chain, Grade T
EN 954-1	Safety of machinery, Safety-related parts of control systems Part 1: General principles for design
EN 14492-2	Cranes, Power driven winches and hoists, Part 2: Power driven hoists
EN 50178	Electronic equipment for use in power installations
EN 60034-1	Rotating electrical machines, Part 1: Rating and performance
EN 60034-5	Degrees of protection provided by the integral design of rotating electrical machines
EN 60204-32	Safety of machinery, Electrical equipment of machines Part 32: Requirements for hoisting machines
EN 60529	Specification for degrees of protection provided by enclosures
EN 60947-1	Low-voltage switchgear and controlgear, Part 1: General rules
EN 61000-6-2	Electromagnetic compatibility (EMC), Part 6-2: Generic standards Immunity for industrial environments
EN 61000-6-3	Electromagnetic compatibility (EMC), Part 6-3: Generic standards Emission standard for residential, commercial and light-industrial environments
EN 61000-6-4	Electromagnetic compatibility (EMC), Part 6-4: Generic standards Emission standard for industrial environments

Applied standards and technical specifications:

FEM 9.751	Power driven series hoist mechanisms, safety
FEM 9.755	Measures for achieving safe working periods

Schötz, 14.01.2009

GIS AG

A. Grob
Managing Director

E. Leiva
Marketing Manager

The completion, assembly and commissioning has been carried out according to the instruction manual signed:

Place: Date:

Responsible person:

Company:

EC-DECLARATION BY THE MANUFACTURER

as defined by EC directive 98/37/EC (2006/42/EC), Annex II B, 89/336/EEC, Annex I and 2006/95/EC, Annex III

We,

GIS AG, Hebe- und Fördertechnik, CH-6247 Schötz

hereby declare that the commissioning of the following product



**GIS travel trolley, model
capacity range**

**EHF, EMFE
500 kg - 5000 kg**

in serial production, from year of manufacture 1994

**is intended to be incorporated into machinery, may not be used until the machinery
into which it is to be incorporated has been declared to**

comply with the following provisions:

EC Machinery Directive	98/37/EC (2006/42/EC)
EC Directive For Electromagnetic Compatibility	89/336/EEC
Modified By	92/31/EEC, 93/68/EEC
EC Low Voltage Directive	2006/95/EC

Applied harmonized standards:

EN ISO 4301-1	Cranes and lifting appliances, Classification, Part 1: General
EN ISO 12100-1	Safety of machinery, Basic terminology
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EN 954-1	Safety of machinery, Safety-related parts of control systems Part 1: General principles for design
EN 14492-2	Cranes, Power driven winches and hoists, Part 2: Power driven hoists
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EN 61000-6-3	Electromagnetic compatibility (EMC), Part 6-3: Generic standards Emission standard for residential, commercial and light-industrial environments
EN 61000-6-4	Electromagnetic compatibility (EMC), Part 6-4: Generic standards Emission standard for industrial environments

Applied standards and technical specifications:

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