

LCH Instruction Manual (D8 / D8 Plus / C1)

The LCH (D8 / D8 Plus / C1) operating instructions are based on the operating instructions for the GCH models (9400.9000.1). This supplement is a constituent of the operating instructions. Only chapters that have been added to or corrected are included.

0 General information

The general information generally also apply to LCH (D8 / D8 Plus / C1) models.

0.5 Technical status

0.5.1 Technical datas

0.5.1.7 Models D8 Plus / C1 table 0-8

The LCH models are designed with a shock factor of 1.40 in operation, in accordance with EN 818-7.

Incidents investigated by the Employers Liability Insurance Association generate lower shock factors than those occurring in normal operation.

0.6 Operational parameters

The LCH series of electric chain hoists are intended for use in setting up events. Events include such items as concerts, shows, conferences, meetings, exhibitions, presentations, demonstrations, film or television shoots and similar. The location of such events include, amongst other places, theatres, multipurpose halls, studios, film sets, television and radio broadcasting, concert halls, conference centres, schools, exhibitions, fairs, museums, discotheques, vaudeville, recreational parks, sports facilities, open air theatres and meetings.

This standard differentiates between three types of electric chain hoists:

D8 Hoist

Electric chain hoist according to BGV D8/GUV-V D8 (previously GUV 4.2) "Winches, lifting and pulling devices" for use as a chain hoist for lifting loads in construction.

D8 Plus Hoist

Electric chain hoist based on BGV D8/GUV-V D8 (previously GUV 4.2) "Winches, lifting and pulling devices" for use as a chain hoist for lifting loads in construction with the special characteristic of being able to hold loads statically above personnel, without the use of secondary safety devices.

C1 Hoist (scenery hoist)

Electric chain hoist according to BGV C1/ GUV-V C1 (previously GUV 6.15) "Staging and production facilities for the entertainment industry" for holding and moving loads above personnel.

The types of electric chain hoists specified above can be operated both individually and in groups.

Electric chain hoists are offered in a multiplicity of designs and feature options, as well as with different safety devices. This means that the choice of chain hoist is extremely important. Here consideration must be given to risks arising from the nature of the operational use and the specific operating conditions.

The choice of the type of electric chain hoist depends on the operating conditions:

Use	D8	D8 with secondary safety device	D8 Plus	C1
	Where personnel are under the load			
Erection / dismantling, rigging operations	Not permitted	Not permitted	Not permitted	Permitted
Holding loads	Not permitted	Permitted	Permitted	Permitted
Scene movement	Not permitted	Not permitted	Not permitted	Permitted

Where equipment is permanently installed in locations where events take place, electric chain hoists according to BGV C1/GUV-V C1 should be provided, on account of the mode of operation and the anticipated risks.

1 Description

1.1 Operating conditions

The ambient temperature must be between -10°C and +40°C.

1.2 General functional description

1.2.2 Motor and brake

When the equipment is commissioned, and periodically thereafter, the functionality of both brakes must be examined. The periodic examination should be carried out by competent personnel annually and by an expert every four years.

The verifiability of the individual brakes is to be provided by a control engineer. A sample control scheme for a D8 Plus hoist or a sample guide for the PLC used in a C1 hoist can be obtained from GIS.

2 Start-up

2.1 Transport and assembly

Check the identification plate as to whether the chain hoist corresponds to the type ordered (D8, D8 Plus, C1).

The chain hoist must display the following markings:

D8: Triangle

D8 Plus: Square

C1: Circle

2.2.1 Electrical connection

The appropriate electrical diagram can be found in the cover of the electric chain hoist. In the case of the D8 Plus and C1 chain hoists, once the device is in position the power must be disconnected using a lockable switch.

To commission the mechanically tested chain hoist as a C1 hoist, the control system and the electrical assessment of the load measuring device must likewise be approved by a certified inspection body as a C1 system (in accordance with BGV C1/GUV-V C1). The principles laid out in BGG 912/GUV G 912 are to be used. An inspection and test log book is to be set up, consisting of the equipment documentation provided by the manufacturer and the test reports.

Plans and descriptions of the electrical system are to be supplemented by the appropriate control engineer on a project-specific basis.

3 Service and maintenance

3.3 Ordering of spare parts

The appropriate assembly diagram is considered to be a supplement to the parts catalogue.

Table 0-8 Technical datas LCH

Term	Dead weight [kg]	M3, 1Bm 150 s/h, 25% duty			Chain safety factor normal use	Chain safety factor use as climbing hoist	M4, 1Am 180 s/h, 30% duty			Chain safety factor normal use	Chain safety factor use as climbing hoist	M5, 2m 240 s/h, 40% duty			Chain safety factor normal use	Chain safety factor use as climbing hoist	Lifting speed	
		1 fall load normal hoist	1 fall all. load climbing hoist	1 fall tot. load climbing hoist			1 fall load normal hoist	1 fall all. load climbing hoist	1 fall tot. load climbing hoist			1 fall load normal hoist	1 fall all. load climbing hoist	1 fall tot. load climbing hoist			1 fall	2 falls
		[kg]	[kg]	[kg]			[kg]	[kg]	[kg]			[kg]	[kg]	[kg]			[m/min]	[m/min]
LCH 250/-N, D8+, C1	25	200	180	205	10.25	10.00	200	180	205	10.25	10.00	160	160	185	12.81	11.08	8	4
LCH 250/-NF, D8+, C1	25	200	180	205	10.25	10.00	200	180	205	10.25	10.00	160	160	185	12.81	11.08	8/2	4/1
LCH 250/-SF, D8+, C1	25	160	160	185	12.81	11.08	125	125	150	16.40	13.66	100	100	125	20.50	16.40	12.5/3	6.25/1.5
LCH 250/-HF, D8+, C1	25	100	100	125	20.50	16.40	80	80	105	25.62	19.52	60	60	85	34.16	24.11	20/5	-
LCH 250/-NL, D8+, C1	25	200	180	205	10.25	10.00	200	180	205	10.25	10.00	160	160	185	12.81	11.08	4	-
LCH 250/-SL, D8+, C1	25	160	160	185	12.81	11.08	125	125	150	16.40	13.66	100	100	125	20.50	16.40	6.25	-
LCH 250/-HL, D8+, C1	25	100	100	125	20.50	16.40	80	80	105	25.62	19.52	60	60	85	34.16	24.11	10	-
LCH 250/-NL, D8+, C1, FU	25	200	180	205	10.25	10.00	200	180	205	10.25	10.00	200	180	205	10.25	10.00	4	-
LCH 250/-SL, D8+, C1, FU	25	160	160	185	12.81	11.08	160	160	185	12.81	11.08	160	160	185	12.81	11.08	6.25	-
LCH 250/-HL, D8+, C1, FU	25	100	100	125	20.50	16.40	100	100	125	20.50	16.40	100	100	125	20.50	16.40	10	-
LCH 500/-N, D8+, C1	30	320	290	320	10.01	10.01	320	290	320	10.01	10.01	320	290	320	10.01	10.01	8	4
LCH 500/-NF, D8+, C1	30	320	290	320	10.01	10.01	320	290	320	10.01	10.01	320	290	320	10.01	10.01	8/2	4/1
LCH 500/-SF, D8+, C1	30	320	290	320	10.01	10.01	250	250	280	12.81	11.44	200	200	230	16.01	13.92	12.5/3	6.25/1.5
LCH 500/-HF, D8+, C1	30	200	200	230	16.01	13.92	160	160	190	20.02	16.85	125	125	155	25.62	20.66	20/5	-
LCH 500/-NL, D8+, C1	30	320	290	320	10.01	10.01	320	290	320	10.01	10.01	320	290	320	10.01	10.01	4	-
LCH 500/-SL, D8+, C1	30	320	290	320	10.01	10.01	250	250	280	12.81	11.44	200	200	230	16.01	13.92	6.25	-
LCH 500/-HL, D8+, C1	30	200	200	230	16.01	13.92	160	160	190	20.02	16.85	125	125	155	25.62	20.66	10	-
LCH 500/-NL, D8+, C1, FU	30	250	250	280	12.81	11.44	250	250	280	12.81	11.44	250	250	280	12.81	11.44	4	-
LCH 500/-SL, D8+, C1, FU	30	250	250	280	12.81	11.44	250	250	280	12.81	11.44	250	250	280	12.81	11.44	6.25	-
LCH 500/-HL, D8+, C1, FU	30	200	200	230	16.01	13.92	200	200	230	16.01	13.92	200	200	230	16.01	13.92	10	-
LCH 1000/-N, D8+, C1	50	625	575	625	10.04	10.04	625	575	625	10.04	10.04	625	575	625	10.04	10.04	8	4
LCH 1000/-NF, D8+, C1	50	625	575	625	10.04	10.04	625	575	625	10.04	10.04	625	575	625	10.04	10.04	8/2	4/1
LCH 1000/-SF, D8+, C1	50	500	500	550	12.55	11.41	400	400	450	15.69	13.95	320	320	370	19.61	16.96	16/4	-
LCH 1000/-NL, D8+, C1	50	625	575	625	10.04	10.04	625	575	625	10.04	10.04	625	575	625	10.04	10.04	4	-
LCH 1000/-N, D8+, C1, FU	50	500	500	550	12.55	11.41	500	500	550	12.55	11.41	500	500	550	12.55	11.41	8	-
LCH 1000/-NL, D8+, C1, FU	50	500	500	550	12.55	11.41	500	500	550	12.55	11.41	500	500	550	12.55	11.41	4	-
LCH 1600/-N, D8+, C1	80	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	8	4
LCH 1600/-NF, D8+, C1	80	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	8/2	4/1
LCH 1600/-SF, D8+, C1	80	1000	950	1030	10.38	10.07	800	800	880	12.97	11.79	630	630	710	16.47	14.61	12.5/3	6.25/1.5
LCH 1600/-NL, D8+, C1	80	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	4	-
LCH 1600/-SL, D8+, C1	80	1000	950	1030	10.38	10.07	800	800	880	12.97	11.79	630	630	710	16.47	14.61	6.25	-
LCH 1600/-N, D8+, C1, FU	80	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	8	-
LCH 1600/-NL, D8+, C1, FU	80	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	4	-
LCH 1600/-SL, D8+, C1, FU	80	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	1000	950	1030	10.38	10.07	6.25	-

EC-DECLARATION OF CONFORMITY

as defined by EC directive 2006/42/EC, Annex II A, 89/336/EEC, Annex I and 73/23/EEC, Annex III

We,

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

declare herewith that the product



**GIS electric chain hoist, model
in the capacity range of**

**LCH
40 kg - 5000 kg**

in its type of serial production, effective construction year 2005

complies with the following provisions applying to it:

EC machinery directive	2006/42/EC
EC directive for electromagnetic compatibility	89/336/EEC
modified by	92/31/EEC, 93/68/EEC
EC low voltage directive	73/23/EEC
modified by	93/68/EEC

Applied harmonized standards:

EN ISO 12100-1	Safety of machinery - Basic terminology
EN ISO 12100-2	Safety of machinery - Technical principles
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 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 9.511	Classification of mechanisms
FEM 9.683	Selection of lifting and travel motors
FEM 9.751	Power driven series hoist mechanisms, safety
FEM 9.755	Measures for achieving safe working periods
DIN 56950	Entertainment technology
VPLT.SR2.0	Standards to the entertainment technology

Schötz, 29.11.2006


A. Grob
Managing Director

GIS AG


E. Leiva
Marketing Manager

For completion, assembling and starting according to instruction manual is signing as responsible:

Place: Date:

Responsible person:

Company:

EC-DECLARATION BY THE MANUFACTURER

as defined by EC directive 2006/42/EC, Annex II B, 89/336/EEC, Annex I and 73/23/EEC, Annex III

We,

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

declare herewith that the putting into service of the product



**GIS electric chain hoist, model
in the capacity range of**

**LCH
40 kg - 5000 kg**

in its type of serial production, effective construction year 2005

**intended to be incorporated into machinery, is prohibited until the machinery
into which it is to be incorporated has been declared that it**

complies with the following provisions applying to it:

EC machinery directive	2006/42/EC
EC directive for electromagnetic compatibility	89/336/EEC
modified by	92/31/EEC, 93/68/EEC
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EN 61000-6-4	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards Emission standard for industrial environments

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Place: Date:

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