



LIFTING FOR ENTERTAINMENT

LOADGUARD® - A LIFT TURN MOVE PRODUCT - VERSION 4

HOISTS / CONTROL / SUPPORT - ALL IN ONE PLACE

Wirral based LTM – Lift Turn Move Ltd, established in 2004 is an independent company owned by the people who run the business. This ensures decisions are made swiftly and customer service is top priority.

We have eight staff in sales related roles; they all hold LEEA (Lifting Equipment Engineers Association) qualifications and six workshop engineers who are trade qualified and carry LEEA certification.

We have over two hundred man years of experience in Lifting and Handling Equipment, this experience in solving lifting problems is invaluable to you.

LTM purchased COW Lifting Technology of Aichach, Germany in 2009; this gives LTM a central European base and access to the BGV C1 chain hoists, electric winches and motion control systems that COW have developed over the last five years. COW Lifting Technology excel at advanced specification equipment for lifting loads above people where load monitoring, variable speed and accurate programming are required. Project references throughout Europe are available upon request.

MARKETS & PRODUCTS

LTM supply an extensive range of Lifting Equipment and Services for use in the Professional Entertainment Industry. This includes the LoadGuard® Electric Chain Hoists and other associated rigging equipment including Guardian Hoist Controllers.

As well as stocking LoadGuard® and other hoists for immediate despatch, we hold an extensive range of spares allowing you to get hoists in working order within the shortest possible time.

In addition to standard rigging hoists, we supply high integrity hoists and control systems for lifting loads without secondary suspension. This includes equipment to BS7906: Part 1 – Category A, German safety standards BGV D8 Plus or BGV C1 and the CEN 15902-1 agreement.

Advanced user friendly safety features can include double brakes, load sensing, incremental and absolute encoders and multiple limit switches. Variable speed hoists and manual or computerised controllers are available to monitor safety features and drive the hoisting equipment.

Guardian Hoist Controllers are built at LTM to standard and custom built specifications. Higher integrity control systems are also available from COW Lifting Technology.

A full range of rigging accessories including Load Cell Systems, Hoist Encoders, Flight Cases, Manual Chain Blocks, Steels, Shackles, Roundslings, Softsteels, STAC chain and Beam Clamps are available from stock. Please see our separate literature.

To complement our hoisting and rigging equipment portfolio we are a stocking distributor for the Litestructures high performance, professional range of LitePro truss. The LitePro range is ideal for rental, touring and installation markets due to its cost effective solution that is robust and highly durable.

We supply industrial lifting equipment, covering GIS Electric Chain Hoists, track systems and vacuum lifting equipment. We also offer Manual and Electric Hoists, Hand & Electric Winches and Jacking Equipment.

For further information please see

www.liftturnmove.com
www.loadguard.com
www.gishoists.co.uk
www.guardianmotioncontrol.com,
www.winchshop.co.uk
www.cow-lifting-tec.de

WORKSHOP SERVICES

LTM offer repairs and routine maintenance on Electric Chain Hoists. This can either be done at our workshop or alternatively we offer this service at your location using our mobile testing facilities.

We undertake site installation, testing and commissioning work on all of the products we offer for sale. We can also install equipment from other manufacturers.

Our engineering staff, as well as being time served engineers – both Mechanical and Electrical, hold LEEA (Lifting Equipment Engineers Association) qualifications.

Our processes are audited and checked by LEEA to ensure we undertake our operations to meet the latest regulations and standards.

TRAINING

LTM continues to offer high quality Chain Hoist Training Schools for owners and users. Training courses take place on a regular basis, both in house and on your premises.

WHY USE LTM

We pride ourselves on fast response and delivery; we hold an extensive range of equipment at our premises, orders and repairs are turned around at speed- LTM understand the needs of demanding and rapidly moving industries where service is critical.

We give honest opinions on solutions that suit your needs and we feel we offer the right solution for you- every time.

The LTM sales and workshop team are LEEA (Lifting Equipment Engineers Association) qualified; we hold recognised qualifications relating to the products we sell and maintain, this is something we are all very proud of

LTM - Hoists, Control & Support- ALL IN ONE PLACE.

When to deal with LTM, you get experience, problem solving and most of all flexibility – free of charge.

All the best – the Team at LTM



CONTACT DETAILS

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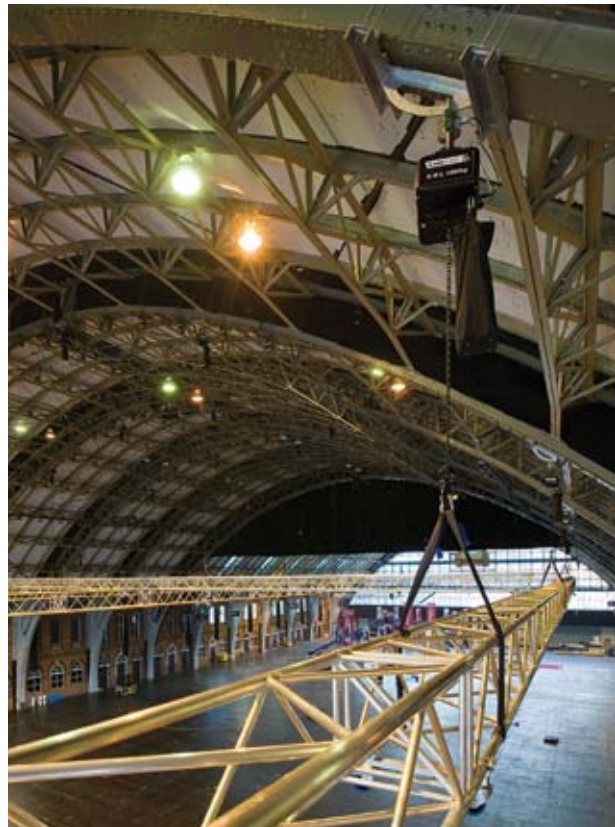
We use various methods of delivery and can deliver more or less whenever you need.
 LoadGuard™ - A Lift Turn Move Product



Mothergrid application at Liverpool Arena and Convention Centre using 20 x 3t SWL LoadGuard® Hoists to BS7906: Part 1- Category A, with loadcells and encoders for advanced venue safety, control and monitoring. Photo courtesy of Steve Moles. Client - Star Events Group for Liverpool Arena and Convention Centre.

In addition to hoists and control for the Mothergrid, LTM also supplied to Liverpool Arena & Convention Centre, 64 x LoadGuard® Chain hoists to BS7906: Part 1- Category A and associated control for use within the Arena. Client - J & C Joel Ltd for Liverpool Arena and Convention Centre.

52- 500kg SWL units were supplied for lifting drape trusses in the Arena and in the four exhibition and conference rooms in the convention centre. These are used for everyday rigging applications like flying trusses above a stage for a presentation to complex stage sets for large conferences. 12- 1t SWL units were installed in the Arena Auditorium for flying a front truss and various speaker hangs.



Mothergrid application at Manchester Central (GMEX) using 54 x 1.0t LoadGuard® Hoists to BS 7906: Part 1 - Category A with custom build integrated load cell monitoring and control system. Client - Litestructures for Manchester Central (GMEX).

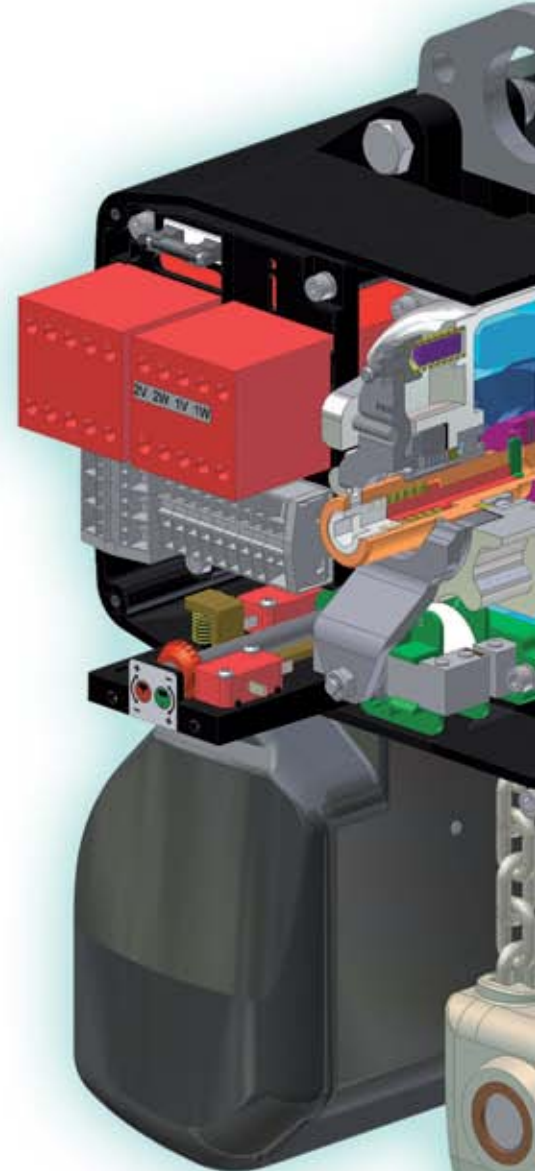


BRAKE

- New advanced brake design
- Virtually maintenance free
- Maximum safety – the brake is mounted after the slipping clutch; clutch wear will not affect the integrity of the load
- Double brake assembly available which can be independently checked for correct operation

CONTROL SYSTEM

- Simple Technology (no electronics susceptible to interference)
- Reliable construction using proven components
- Emergency stop contactor if required (sometimes needed for permanent installations)
- Low voltage 42V control system (110V or 24V available on request)



GEARED LIMIT SWITCH (STANDARD)

- Available with 2 or 4 position limit stops
- Simple adjustment, with positioning and repeatability
- Lifting heights up to 120 m (3 drive ratios are possible)

LOAD CHAIN WHEEL

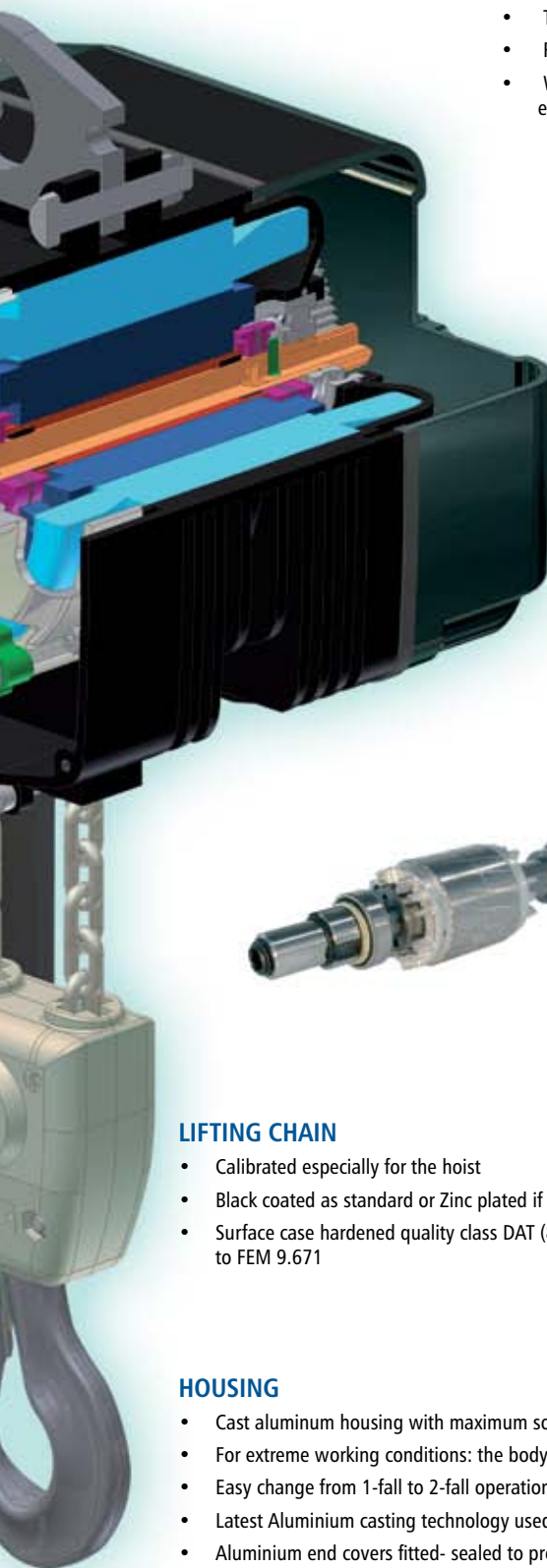
- Manufactured from hardened steel
- With additional chain pockets, type 25 hoist with six pockets, other hoists have 5 pocket load chain wheel – quiet with improved running properties
- Double bearing support with sealed bearings, drain system available for load chain wheel area when hoist is inverted



TRANSMISSION

- Improvements to gear designs reduce noise levels
- Helical first and second gear teeth for quieter running
- Permanent grease lubrication for wear resistant operation, no oil leaks





CHAIN GUIDE

- Replacement can be carried out without disassembling the hoist
- Two- part construction to optimise maintenance
- Reinforced glass fibre/ plastic material is highly wear resistant
- Wear plates fitted to underside of hoist aids chain guidance and eliminates chain jamming



SLIPPING CLUTCH

- Prevents overloading
- Simple and precise adjustment at workshop level; no exterior adjustment possible
- Clutch is located in the rotor shaft—outside the drive chain; clutch wear will not affect the integrity of the load
- Maintenance free and highly resistant to wear
- Clutch parts available if required – no need to buy complete assemblies
- Ease of servicing thanks to comfortable access



MOTOR

- Designed for tough working conditions
- One or two speeds available in a variety of speeds; normal, fast and super fast to suit your application
- Special power supplies available including some hoists for single phase power supply
- Options: thermal cut out device to prevent overheating and antiphase system to prevent misphasing



LIFTING CHAIN

- Calibrated especially for the hoist
- Black coated as standard or Zinc plated if required
- Surface case hardened quality class DAT (8SS) to FEM 9.671

HOUSING

- Cast aluminum housing with maximum solidity
- For extreme working conditions: the body has cast cooling fins to dissipate heat caused by operation
- Easy change from 1-fall to 2-fall operation: no need to dismantle the hoist
- Latest Aluminium casting technology used- manufactured by an automotive industry supplier
- Aluminium end covers fitted- sealed to prevent water penetration





- Modern design, manufacture and assembly mean long life and competitive pricing. Quiet, reliable and proven time after time
- Modular unit meets all current hoisting regulations for standard rigging hoists to BGV D8 and FEM 9.751 standards, optional extra features allow the hoist to conform to current and future higher safety standards
- Lifting capacities from 250kg to 5000kg
- Supplied in Direct Control or Low Voltage Control (42V) with upper/ lower geared electrical limit switches, alternatively with ultimate limits Hoists are fitted with moveable mechanical stops to prevent over travel in an emergency situation
- Speeds; A range of speeds are available including standard 4 or 8 m/ min and many faster speeds, 2 speeds versions are also available
- The clutch overload device is mounted outside the drive train; In the event of clutch problems the load will not be compromised. This is a requirement of many modern safety standards.
- Light in weight, small in size, a 500kg hoist weighs only 18.5kg
- 5 or 6 pocket load chain wheel gives smoother running and quiet operation
- Eye body suspension is standard, hook available on request
- The hoist can be used for either upright/motor up or climbing/motor down applications
- The chain bag is close coupled, available in 5 sizes. (See page 14 for further information)
- The hoist and chain are black in colour, ideal for entertainment applications, zinc plated chain also available on request
- Available for 3 phase or single phase power supplies
- Options to meet higher safety regulations include second brake, standard and ultimate limit switches, load sensing eye or hook suspension, brake monitor and encoders for positional feedback. These can be fitted or retrofitted to standard modular hoists
- Flight cases have been developed to hold 1, 2 or 4 hoists reducing pack and truck sizes

WHY SHOULD I USE A LOADGUARD® RIGGING HOIST?

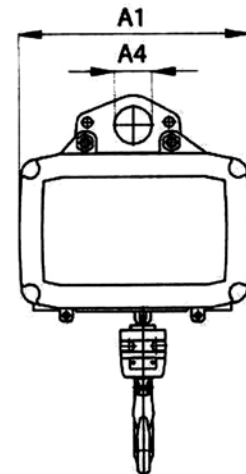
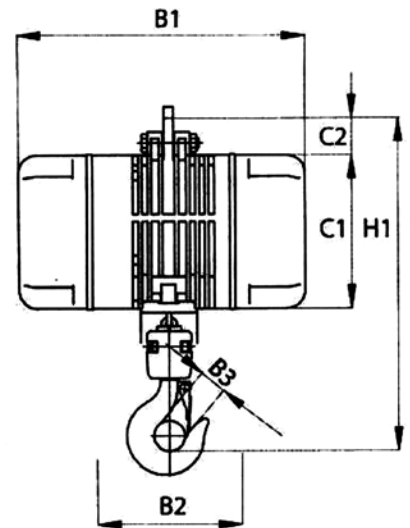
Available in Direct Control or Low Voltage Control with Limit Switches.

The LoadGuard® meets the requirements of all current hoisting standards. Optional extra features can be added later to allow the hoists to conform to higher safety standards

Modern design and manufacturing means the hoist is quiet, compact, lightweight and competitively priced.



Type	Lifting capacity (kg)	Lifting speed (m/min)	Motor power (kW)	No. of chain falls	Chain dimensions	Chain safety factor	Weight body only (kg)	Weight per metre lift (kg)
LG25/1/4	250	4	0.18	1	4 x 12.3	8.2	18	0.32
LG25/1/8	250	8	0.36	1	4 x 12.3	8.2	18	0.32
LG25/2/2	500	2	0.18	2	4 x 12.3	8.2	20.5	0.64
LG25/2/4	500	4	0.36	2	4 x 12.3	8.2	20.5	0.64
LG50/1/4	500	4	0.36	1	5 x 15.3	6.4	18.5	0.52
LG50/1/8	500	8	0.72	1	5 x 15.3	6.4	18.5	0.52
LG50/2/2	1000	2	0.36	2	5 x 15.3	6.4	21.5	1.04
LG50/2/4	1000	4	0.72	2	5 x 15.3	6.4	21.5	1.04
LG10/1/4	1000	4	0.72	1	7 x 22	6.28	42	1.04
LG10/1/8	1000	8	1.45	1	7 x 22	6.28	42	1.04
LG10/2/2	2000	2	0.72	2	7 x 22	6.28	44	2.08
LG10/2/4	2000	4	1.45	2	7 x 22	6.28	44	2.08
LG16/1/4	1600	4	1.22	1	9 x 27	6.48	58	1.75
LG16/1/8	1600	8	2.44	1	9 x 27	6.48	58	1.75
LG16/2/2	3200	2	1.22	2	9 x 27	6.48	62.5	3.5
LG16/2/4	3200	4	2.44	2	9 x 27	6.48	62.5	3.5
LG20/1/4	2000	4	1.55	1	10 x 28	6.4	58	2.25
LG20/1/8	2000	8	3.05	1	10 x 28	6.4	58	2.25
LG20/2/2	4000	2	1.55	2	10 x 28	6.4	62.5	4.5
LG20/2/4	4000	4	3.05	2	10 x 28	6.4	62.5	4.5
LG250/1/3.2	2500	3.2	1.55	1	10 x 28	5.12	58	2.25
LG250/1/6.4	2500	6.4	3.05	1	10 x 28	5.12	58	2.25
LG250/2/1.6	5000	1.6	1.55	2	10 x 28	5.12	62.5	4.5
LG250/2/3.2	5000	3.2	3.05	2	10 x 28	5.12	62.5	4.5



Faster or dual speed hoists available on request

DIMENSIONS

Type	A1	A4	B1	B3	C1	C2	H1 Eye Suspension	H1 Hook Suspension
LG25/1	246	40	309	22	164	53	369	431
LG25/2	246	40	309	22	164	53	408	470
LG50/1	246	40	309	22	164	53	377	439
LG50/2	246	40	309	22	164	53	417	479
LG10/1	321	52	367	32	214	69	482	553
LG10/2	321	52	367	32	214	69	556	627
LG16/1	345	75	389	37	230	135	608	643
LG16/2	345	75	389	37	230	135	690	725
LG20/1	345	75	389	37	230	135	608	643
LG20/2	345	75	389	37	230	135	690	725
LG250/1	345	75	389	37	230	135	608	608
LG250/2	345	75	389	37	230	135	690	690

High integrity Hoists to BS 7906: Part 1: 2005-Category A - Category A Hoists are declared by the manufacturer as intended for use by the Entertainment Industry for lifting and suspending loads over people and meeting the requirements of BS 7905-1 or DIN 56925. Category A hoists are suitable for lifting or suspending loads above people without additional safety measures

THE FOLLOWING FEATURES ARE REQUIRED ON THE HOIST:

- 2 Separate Brakes
- Brake Position - Brake acts directly to stop the load - the clutch is outside the drive train
- Limit Switches - Limit switches and emergency limit switches
- Mechanical Stops - End of travel stops essential
- Emergency Stop - Essential
- Secondary Suspension - Not necessary
- Controller – Desirable
- Chain Container - 50% fullness maximum

THESE HOISTS HAVE THE FOLLOWING FEATURES:

- Modern design, manufacturing and assembly; the latest technology in design and manufacture means long life and competitive pricing. Quiet, reliable, proven
- Modular unit; optional extra features can be added to meet higher integrity standards that may evolve in the future
- Lifting capacities from 250kg– 4000kg
- Low Voltage control 42V incorporates upper and lower geared electrical limit switches with ultimate switches
Hoists are fitted with moveable mechanical stops as an additional safety feature
- Speeds: a range of speeds are available including standard 4 or 8 m/min and many faster speeds, 2 speeds versions are also available
- The clutch overload device is mounted in the rotor shaft outside the drive train; In the event of clutch problems the load will not be compromised. This is a requirement of many modern safety standards
- 5 or 6 pocket load chain wheel gives smoother running and quieter operation than other chain hoists
- The hoist can be used for upright/motor up or climbing/motor down applications
The chain bag is close coupled and available in 5 sizes
- The hoist and chain are black in colour with handles as standard, ideal for entertainment applications; Zinc plated chain is also available
- Light in weight, small in size; a 500kg hoist weighs only 18.5kg
- Eye Suspension is standard, hook available on request
- Available for 400V, 3Ph, 50Hz power supply



WHY SHOULD I USE A LOADGUARD® HOIST TO BS 7906: PART 1- CATEGORY A?

The LoadGuard® meets the requirements of all current hoisting standards.

Optional extra features are added to the modular hoist to conform to BS 7906; Part 1- Category A, this allows loads to be lifted or held above people without secondary suspension where working at height is neither practical or desirable.

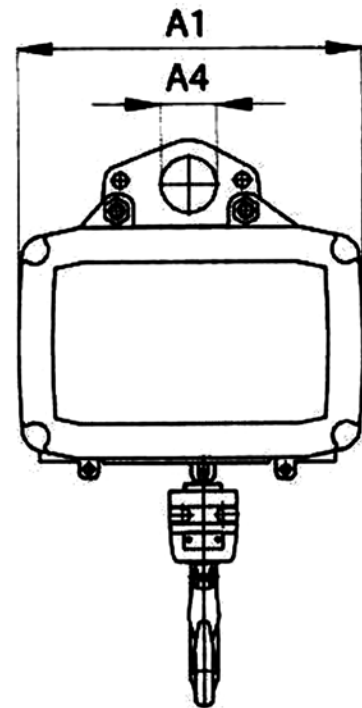
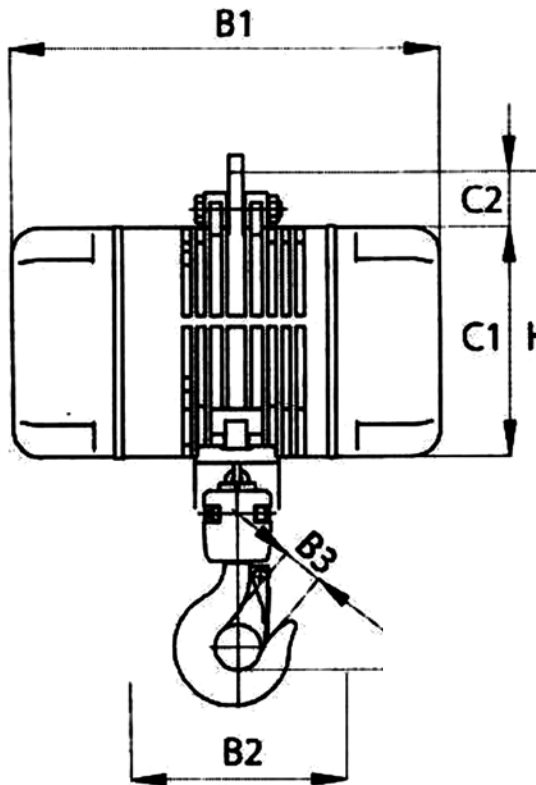
Hoists to this standard are already widely used in theatres, schools, multi-purpose venues, sports centres, arenas and convention centres- they reduce the requirement for working at height.

Specification- Single lifting speed										
Hoist Type	Lifting capacity (kg)	Normal Chain safety factor	Lifting capacity (kg)	Lifting capacity (kg)	Lifting speed (m/min)	Motor power (kW)	No. of chain falls	Chain dimensions (mm)	Weight body only (kg)	Weight per extra metre lift (kg)
Factor of safety	6:1		8:1	10:1						
LG25/1/4	250	8.2	250	200	4	0.18	1	4 x 12.3	18	0.32
LG25/1/8	250	8.2	250	200	8	0.36	1	4 x 12.3	18	0.32
LG25/2/2	500	8.2	500	410	2	0.18	2	4 x 12.3	20.5	0.64
LG25/2/4	500	8.2	500	410	4	0.36	2	4 x 12.3	20.5	0.64
LG50/1/4	500	6.4	400	320	4	0.36	1	5 x 15.3	18.5	0.52
LG50/1/8	500	6.4	400	320	8	0.72	1	5 x 15.3	18.5	0.52
LG50/2/2	1000	6.4	800	640	2	0.36	2	5 x 15.3	21	1.04
LG50/2/4	1000	6.4	800	640	4	0.72	2	5 x 15.3	21	1.04
LG10/1/4	1000	6.28	785	628	4	0.72	1	7 x 22	42	1.04
LG10/1/8	1000	6.28	785	628	8	1.45	1	7 x 22	42	1.04
LG10/2/2	2000	6.28	1570	1256	2	0.72	2	7 x 22	44	2.08
LG10/2/4	2000	6.28	1570	1256	4	1.45	2	7 x 22	44	2.08
LG16/1/4	1600	6.48	1296	1037	4	1.22	1	9 x 27	58	1.75
LG16/1/8	1600	6.48	1296	1037	8	2.44	1	9 x 27	58	1.75
LG16/2/2	3200	6.48	2592	2073	2	1.22	2	9 x 27	62.5	3.5
LG16/2/4	3200	6.48	2592	2073	4	2.44	2	9 x 27	62.5	3.5
LG20/1/4	2000	6.4	1600	1280	4	1.55	1	10 x 28	58	2.25
LG20/1/8	2000	6.4	1600	1280	8	3.05	1	10 x 28	58	2.25
LG20/2/2	4000	6.4	3200	2560	2	1.55	2	10 x 28	62.5	4.5
LG20/2/4	4000	6.4	3200	2560	4	3.05	2	10 x 28	62.5	4.5

Specification- Dual hoisting speeds										
Hoist Type	Lifting capacity (kg)	Normal Chain safety factor	Lifting capacity (kg)	Lifting capacity (kg)	ifting speed (m/min)	Motor power (kW)	No. of chain falls	Chain dimensions (mm)	Weight body only (kg)	Weight per extra metre lift (kg)
Factor of safety	6:1		8:1	10:1						
LG25/1/8&2	250	8.2	250	200	8/2	0.36/0.09	1	4 x 12.3	21	0.32
LG25/1/12.5&3	160	12.81	160	160	12.5/3	0.36/0.09	1	4 x 12.3	21	0.32
LG25/1/20&5	100	20.5	100	100	20/5	0.36/0.09	1	4 x 12.3	21	0.32
LG25/2/4&1	500	8.2	500	400	4/1	0.36/0.09	2	4 x 12.3	21	0.64
LG25/2/6.25&1.5	320	12.81	320	320	6.25/1.5	0.36/0.09	2	4 x 12.3	21	0.64
LG50/1/8&2	500	6.4	400	320	8/2	0.72/0.18	1	5 x 15.3	21	0.52
LG50/1/12.5&3	320	10	320	320	12.5/3	0.72/0.18	1	5 x 15.3	21	0.52
LG50/1/20&5	200	16	200	200	20/5	0.72/0.18	1	5 x 15.3	21	0.52
LG50/2/4&1	1000	6.4	800	630	4/1	0.72/0.18	2	5 x 15.3	22	1.04
LG50/2/6.25&1.5	630	10	630	630	6.25/1.5	0.72/0.18	2	5 x 15.3	22	1.04
LG10/1/8&2	1000	6.28	785	628	8/2	1.45/0.36	1	7 x 22	45	1.04
LG10/1/16&4	800	7.85	785	638	16/4	1.45/0.36	1	7 x 22	45	1.04
LG10/2/4&1	2000	6.28	785	628	4/1	1.45/0.36	2	7 x 22	47	2.08
LG10/2/8&2	1000	6.28	785	628	8/2	1.45/0.36	2	7 x 22	47	2.08
LG16/1/8&2	1600	6.48	1296	1037	8/2	2.44/0.61	1	9 x 27	60	1.75
LG16/1/12.5&3	1000	10.36	1000	1000	12.5/3	2.39/0.58	1	9 x 27	60	1.75
LG16/2/4&1	3200	6.48	2592	2073	4/1	2.44/0.61	2	9 x 27	64.5	3.5
LG16/2/6.25&1.5	2000	10.36	2000	2000	6.25/1.5	2.39/0.58	2	9 x 27	64.5	3.5
LG20/1/8&2	2000	6.4	1600	1280	8/2	3.05/0.77	1	10 x 28	60	2.25
LG20/1/12.5&3	1250	10.24	1250	1250	12.5/3	2.98/0.72	1	10 x 28	60	2.25
LG20/2/4&1	4000	6.4	1600	1280	4/1	3.05/0.77	2	10 x 28	64.5	4.5
LG20/2/6.25&1.5	2500	10.28	2500	2500	6.25/1.5	2.98/0.72	2	10 x 28	64.5	4.5

DIMENSIONS

Type	A1	A4	B1	B3	C1	C2	H1 Eye Suspension	H1 Hook Suspension
LG25/1	246	40	380	22	164	53	362	424
LG25/2	246	40	380	22	164	53	395	457
LG50/1	246	40	380	22	164	53	377	439
LG50/2	246	40	380	22	164	53	417	479
LG10/1	321	52	465	32	214	69	482	553
LG10/2	321	52	465	32	214	69	556	627
LG16/1	345	75	487	37	230	135	608	643
LG16/2	345	75	487	37	230	135	690	725
LG20/1	345	75	487	37	230	135	608	643
LG20/2	345	75	487	37	230	135	690	725



A range of high integrity hoists to BGV D8 Plus, this is a German safety regulation (published by VPLT) for a hoist with the special characteristic of being able to hold loads at rest above people without using a secondary safety component.

These hoists allow the following (when people are present below the load):

- Load holding when loads are static

The hoists do not allow (when people are present below the load):

- Assembly/ disassembly during set up
- Staging processes involving movement.

THE FOLLOWING FEATURES ARE REQUIRED

- 2 separate brakes
- Limit switches not required (but available on some hoists)
- Overload monitoring – shutdown. A friction clutch is permitted if it is not within the load path when the Electric Chain Hoist is disconnected from the power supply.
- Underload monitoring- not required
- Factor of Safety – 10:1, the lifting capacity is de-rated*.

Note* According to instructions from the German employer's Liability Insurance Association the ratings of BGV D8 Plus and BGV C1 Hoists have to change. The Lifting Capacity now becomes Rated Lifting Capacity, this is calculated by dividing the maximum lifting capacity (with 10:1 safety factor) by the dynamic factor; this has the effect of reducing all the previously stated Lifting Capacities.

IN ADDITION THE HOISTS FEATURE:

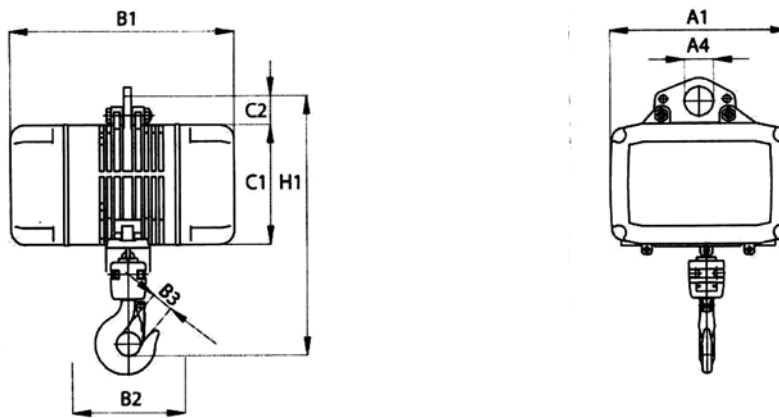
- Modern design, manufacturing and assembly; the latest in design and manufacture means long life and competitive pricing. Quiet, reliable and proven
- Lifting capacities from 200kg – 2500kg
- Low Voltage control as standard; incorporates geared electrical limit switches. Direct Control also available
- Speeds: a range of speeds are available including standard 4 m/ min and many faster speeds, 2 speeds versions are available, these are generally used for permanent installations
- The clutch overload device is mounted outside the drive train; in the event of clutch problems the load will not be compromised. This is a requirement of many modern safety standards
- Hoists are fitted with moveable mechanical stops as an additional safety feature
- 5 or 6 pocket load chain wheel gives smoother running and quieter operation than other chain hoists
- The hoist can be used for either upright/motor up or climbing/motor down applications; the chain bag is close coupled and available in 5 sizes.
- The hoist and load chain are black in colour, ideal for entertainment applications. Zinc plated chain also available
- Light in weight, small in size, a 200kg hoist weighs only 18.5kg
- Available for 400V, 3 Ph, 50Hz power supply

Note* the standard calls for Direct Control Hoists (without low voltage controls and electrical limit switches). Outside of Germany we generally offer Low Voltage Hoists with electrical limit switches as we consider this a better option which still meets the standard.



Type	Maximum Rated Load (kg)	Dynamic Factor	Lifting Speed (m/min)	Motor Power (kW)	No. of Chain Falls	Chain Dimensions (mm)	Chain Safety Factor
LG25/1/4-D8P	160	25%	4	0.18	1	4 x 12.3	10.24
LG25/1/8-D8P	160	25%	8	0.36	1	4 x 12.3	10.24
LG25/2/2-D8P	320	25%	2	0.18	2	4 x 12.3	10.24
LG25/2/4-D8P	320	25%	4	0.36	2	4 x 12.3	10.24
LG50/1/4-D8P	250	25%	4	0.36	1	5 x 15.3	10.24
LG50/1/8-D8P	250	25%	8	0.72	1	5 x 15.3	10.24
LG50/2/2-D8P	500	25%	2	0.36	2	5 x 15.3	10.24
LG50/2/4-D8P	500	25%	4	0.72	2	5 x 15.3	10.24
LG10/1/4-D8P	500	25%	4	0.72	1	7 x 22	10.04
LG10/1/8-D8P	500	25%	8	1.45	1	7 x 22	10.04
LG10/2/2-D8P	1000	25%	2	0.72	2	7 x 22	10.04
LG10/2/4-D8P	1000	25%	4	1.45	2	7 x 22	10.04
LG16/1/4-D8P	800	25%	4	1.22	1	9 x 27	10.39
LG16/1/8-D8P	800	25%	8	2.44	1	9 x 27	10.39
LG16/2/2-D8P	1600	25%	2	1.22	2	9 x 27	10.39
LG16/2/4-D8P	1600	25%	4	2.44	2	9 x 27	10.39
LG20/1/4-D8P	1000	25%	4	1.55	1	10 x 28	10.27
LG20/1/8-D8P	1000	25%	8	3.05	1	10 x 28	10.27
LG20/2/2-D8P	2000	25%	2	1.55	2	10 x 28	10.27
LG20/2/4-D8P	2000	25%	4	3.05	2	10 x 28	10.27

Faster speeds and dual speeds are available - please consult us



DIMENSIONS

Type	A1	A4	B1	B3	C1	C2	H1 Eye Suspension	H1 Hook Suspension
LG25/1	246	40	380	22	164	53	362	424
LG25/2	246	40	380	22	164	53	395	457
LG50/1	246	40	380	22	164	53	377	439
LG50/2	246	40	380	22	164	53	417	479
LG10/1	321	52	465	33	214	69	482	553
LG10/2	321	52	465	33	214	69	556	627
LG16/1	345	75	487	33	230	135	608	643
LG16/2	345	75	487	33	230	135	690	725
LG20/1	345	75	487	33	230	135	608	643
LG20/2	345	75	487	33	230	135	690	725

High integrity Hoists to BGV C1, this is a German safety regulation for hoists capable of moving loads above people without using a secondary suspension system

These hoists allow the following - when people are present below the load:

- Assembly/ disassembly in set up
- Load holding when loads are static i.e. when the load is in a fixed position
- Staging processes involving movement

THESE HOISTS ARE ADAPTED TO HAVE THE FOLLOWING FEATURES:

- 2 separate brakes
- 4 position limit switches – limit switches & emergency limit switches
- Shutdown at 120% of rated load (using loadcell)
- Underload monitoring – using a loadcell
- Factor of Safety – 10:1, the lifting capacity is de-rated*

Note* According to instructions from the German employer’s Liability Insurance Association the ratings of BGV D8 Plus and BGV C1 Hoists have to change. The Lifting Capacity now becomes Rated Lifting Capacity, this is calculated by dividing the maximum lifting capacity (with 10:1 safety factor) by the dynamic factor; this has the effect of reducing all the previously stated Lifting Capacities.

Hoists to this regulation are tested and approved by TUV offices throughout Germany and relevant certification issued. Each BGV C1 system has to be approved on site by a special theatrical engineer when integration tests are carried out.

Special control systems monitor the special features and in the event of any of the safety features being breached- overload, slack chain or emergency limit being contacted, the entire system shuts down. A bypass for the emergency limit is required so that an inspection engineer is able to test limit switches and brakes of the hoists individually



Control systems operate manually or can operate via computerisation, with single or variable speeds, using encoders which can monitor the position of the hoists / load. We can fit absolute and/ or incremental encoders with very high accuracy, encoders may be required to control hoist positions etc.

Load Cells are built into each hoist suspension eye or hook, these are used to monitor under or overload but can also give readouts of actual loads

When hoists to BGV C1 are used, no secondary suspension such as load arresters or safety steels are needed and people can safely work below a raised or moving load. Although this is a German regulation, there should be no doubting its safety. The standard is not officially approved for use in the UK and its selection has to be subject to a suitable risk assessment being carried out

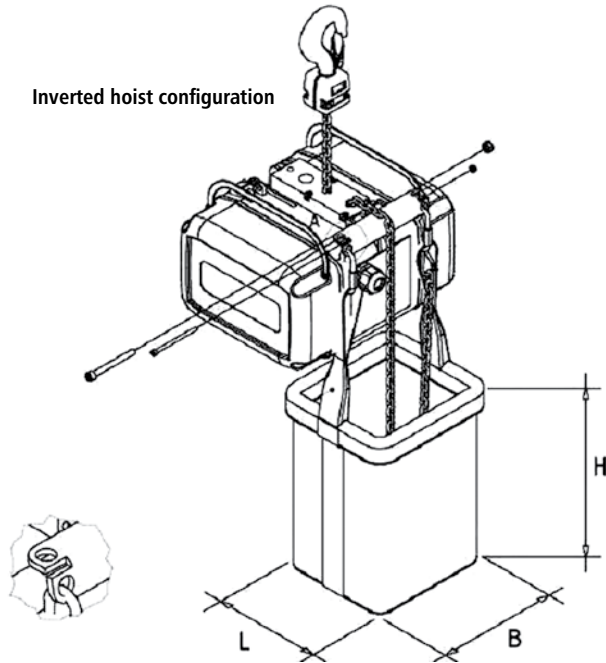
SPECIFICATION

Type	Maximum Rated Load (kg)	Lifting Speed (m/min)	Dynamic Factor	Motor Power (kW)	No. of chain falls	Chain dimensions (mm)	Chain Safety factor	Number of poles on Motor	FEM Classification
LG25/1/4 C1	160	4	25%	0.15	1	4 x 12.3	10.24	4	1Am
LG25/1SL C1	160	6.25	25%	0.18	1	4 x 12.3	10.24	4	1Bm
LG50/1/4 C1	250	4	25%	0.18	1	5 x 15.3	10.24	4	3m
LG50/1SL C1	250	6.25	25%	0.28	1	5 x 15.3	10.24	4	2m
LG10/1/4 C1	500	4	25%	0.72	1	7 x 22	10.04	8	3m
LG10/1/8 C1	500	8	25%	1.45	1	7 x 22	10.04	4	3m
LG16/1/4 C1	800	4	25%	1.53	1	9 x 27	10.39	4	2m
LG16/1/8 C1	800	8	25%	2.44	1	9 x 27	10.39	2	2m
LG16/2/4 C1	1600	4	25%	1.53	2	9 x 27	10.39	2	2m
LG20/1/4 C1	1000	4	25%	1.55	1	10 x 28	10.27	4	2m
LG20/1/8 C1	1000	8	25%	3.05	1	10 x 28	10.27	2	2m
LG20/2/4 C1	2000	4	25%	3.05	2	10 x 28	10.27	2	2m

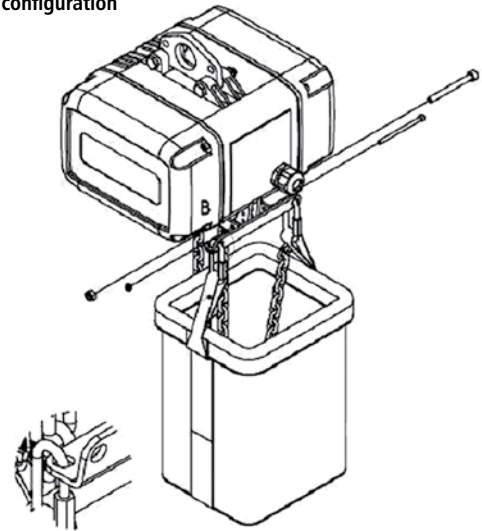
HOISTS TO BGV C1, DESIGNED FOR USE WITH FREQUENCY INVERTER

Type	Maximum Rated Load (kg)	Lifting Speed Standard (m/min)	Dynamic Factor	Speed at 87Hz with frequency inverter (m/min)	No of Chain falls	Chain dimensions (mm)	Chain Safety factor	Number of poles on Motor	FEM Classification
LG25/1/10 C1 FU	100	10	25%	17.4	1	4 x 12.3	20.5	4	2m
LG50/1/10 C1 FU	200	10	25%	17.4	1	5 x 15.3	16.01	4	2m
LG10/1/12.5 C1 FU	500	12.5	25%	21.7	1	7 x 22	12.55	4	2m
LG16/1/5.25 C1 FU	1000	5.25	25%	10.88	1	9 x 27	10.38	4	2m

Inverted hoist configuration



Upright hoist configuration



We offer a range of chain bags for LoadGuard® and other chain hoists.

A special bracket is attached to the hoist to locate the bag using rapid links with screw gate closures for added safety.

The bags are close coupled and allow the hoist to be used in either upright or climbing configurations with correct feeding and retention of the chain.

The bags are available in five sizes between 300 and 1000mm long. The bags have two straps on each side; the shorter straps are used when the hoist is in its upright/motor up position, the longer straps are used when the hoist is in its inverted/motor down configuration.

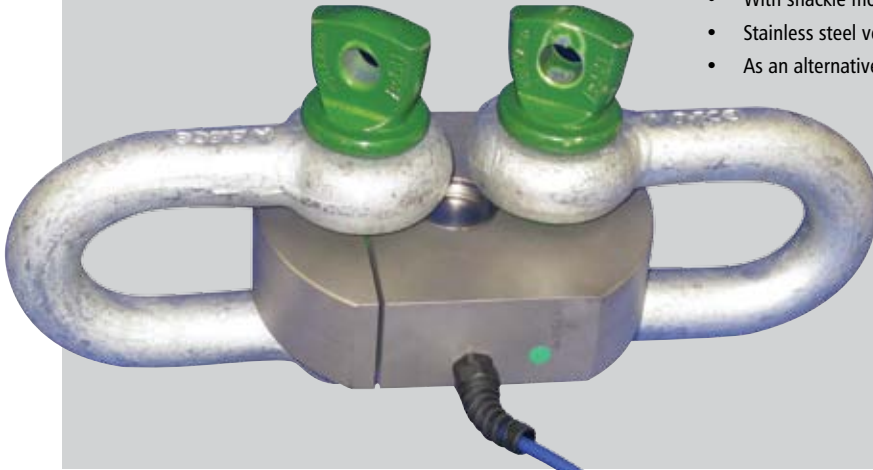
SPECIFICATION

Size of container	XS	S	M	L	XL
Frame size (mm)	200 x 180	200 x 180	200 x 180	200 x 180	200 x 180
Length (mm)	300	450	650	850	1000
Chain capacity	75%	75%	75%	75%	75%
Hoist type, chain diameter					
LG25- 4mm	50	75	110	150	225
LG50- 5mm	37	45	75	100	150
LG10- 7mm	27	30	49	67	78
LG16- 9mm	12	18	27	33	47
LG20/250- 10mm	10	13	20	31	36

Larger bags available on request

LOAD CELLS FOR USE WITH ELECTRIC HOISTS

Load cells can be added to a LoadGuard® Electric Hoist; these are required for under and overload monitoring on BGV C1 hoists and are generally built into the suspension hook or eye assembly. An alternative system to inbuilt loadcells is having separate load cells as featured here.



These separate load cells feature:

- Capacities from 2- 20t
- Simple installation
- Fully sealed, manufactured from plated tool steel and protected to IP66
- Robust
- With shackle mounting for tension applications
- Stainless steel version available on request
- As an alternative we can also supply shackle type load pin units

We normally fit an XLR 4 pin connectors to enable load cells to be connected into an outside control and monitoring system. In multiple load cell systems the cables can be daisy chained. We can supply control systems to show loading information on a computer screen. See below.

LOAD CELL MONITOR

No reliance on PC technology or operating systems. Automatic monitoring of up to 100 digital Load Cells

The Load Cell Monitor is a fully featured digital load cell monitoring system, combining powerful setup and reporting features with ease of use

Using fully embedded processors for ultimate reliability the Load Cell Monitor constantly reads the live weight from each connected load cell

As well as displaying the weights on its front panel LCD screen, and optionally via a PC full screen display, it also compares the individual weights to user defined maximum weights

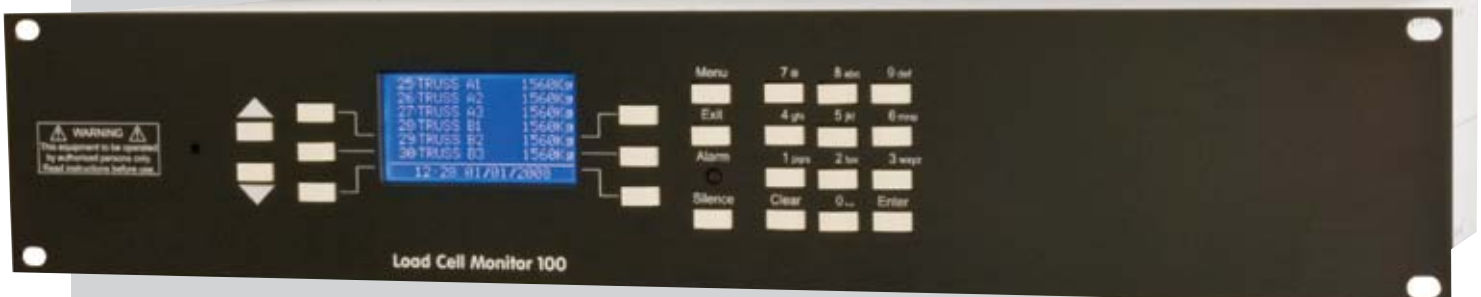
Should any load cell exceed its maximum weight setting an alarm is triggered and a log of the overload event is stored

In addition to the front panel sounder and indicator, a relay output provides alarm condition signalling to an external system or high volume sounder

- Monitoring of up to 100 digital load cells, with maximum weight monitoring
- Log history of alarm events and automatic daily weight readings
- Daisy chain connection of Load Cells using a single cable, with power provided by the Load Cell Monitor
- Live load cell weight display on the front panel LCD screen
- Optional full screen weight display using a PC connected to the Ethernet port. PC's running the IBEX Hoist-Net PC application may be used to view all channels at once, with user configurable screen layout
- Two volt free relay outputs to provide external alarm signalling
- Optional password protection to stop unauthorised users altering settings

OPTIONAL FEATURES:

- Automatic alarm event notification via the internet to a user defined email address
- Automatic periodic sending of the log history over the internet via email
- Remote request for live weights and log data over the internet via email



We offer a range of heavy duty flight cases specially designed for LoadGuard® hoists.

The cases are purpose built.

We offer cases for the 250/500kg hoists which hold 2 or 4 hoists

For the larger capacity hoists, we offer cases for 1 or 2 hoists

Cases can be easily altered to accept standard rigging hoists and longer, higher specification hoists

Case Type	Hoist Type	Capacity	Length (mm)	Width (mm)	Height of Case (mm)	Height with Wheels (mm)	Weight (kg)
LG 25/50	Standard / BS / D8 Plus	2 hoists	835	580	402	552	41
LG 25/50	Standard	4 hoists	1200	580	402	552	53
LG 10	Standard / BS / D8 Plus	1 hoist	700	580	502	652	38
LG 10	Standard / BS / D8 Plus	2 hoists	1200	580	502	652	58
LG 16	Standard / BS / D8 Plus	1 hoist	Information on request				
LG 16	Standard / BS / D8 Plus	2 hoists	Information on request				



LTM have built hoist controllers since 2005, the range started with simple flight cased units. We now manufacture rack and wall mounted controllers and build specials to suit your exact requirements. We build everything from simple handsets to custom build multi channel control and monitoring systems.

GUARDIAN HANDSETS

These units come complete with up and down buttons, a metre of cable and a CEE 4 pin yellow, 16A connector. Note: we also offer double pickles to operate 2 hoists from one handset
We have a separate Guardian Controller Brochure available on request or see www.guardianmotioncontrol.com



GUARDIAN BRIEFCASE HOIST CONTROLLERS

- Available in 4, 6 or 8 channel for Direct Control Hoists and 4 channel for Low Voltage Controlled Hoists
- Local control as standard with the controls mounted on the front face of the Controller
- Built into polypropylene briefcase
- CEE outlets as standard, Socapex available on request
- Available for 400V, 3Ph or 220V, 1Ph power supplies

GUARDIAN FLIGHT CASED CONTROLLER

- Available in 4, 6, 8 or 12 channel as standard but we manufacture in most channel variations
- Local or remote controls
- Built into flight cases
- CEE, Socapex or Harting connector outlets
- We offer Controllers for Direct or Low Voltage controlled Hoists and for 400V, 3Ph or 220V, 1Ph power supplies



GUARDIAN HOIST CONTROLLERS - RACK MOUNTED

- Available in 4, 6, 8 or 12 channel as standard but we manufacture in most channel variations
- Local or remote controls
- Built into rack mounted enclosures
- CEE, Socapex or Harting connector outlets
- We offer Controllers for Direct or Low Voltage controlled Hoists and for 400V, 3Ph or 220V, 1Ph power supplies

GUARDIAN HOIST CONTROLLERS - WALL MOUNTED

- These are available in 4, 6, 8 or 12 channel as standard but we manufacture in most channel variations
- Local or remote controls
- Built into wall mounted enclosures
- Hard wired outlets to hoists
- We offer Controllers for Direct or Low Voltage controlled Hoists and for 400V, 3Ph or 220V, 1Ph power supplies



We have a separate Guardian Controllers Brochure available on request or see www.GuardianMotionControl.com



IBEX PROGRAMMABLE HOIST CONTROLLER PLUS

The IBEX Programmable Hoist Controller Plus is a state of the art motion control system providing fully computerised control of single speed hoists combined with the simplicity and versatility of a traditional manual hoist controller. It provides as little or as much functionality as required. With dedicated toggle switches and select buttons for every channel,

Connecting to the controller is simple. It acts as an intelligent rigger's hand control, with 'up' and 'down' relay outputs for each channel, and can be connected to any standard hoist controller rack using a cable wired to suit the pinout of the handset.

Each channel may be set up as either manual control or encoded computer positioning (single or dual phase encoders possible).

The Ibox also features a port for connection to digital load cells. Each channel may be configured to read its assigned load cell and can stop movement if the defined minimum or maximum weight is exceeded.

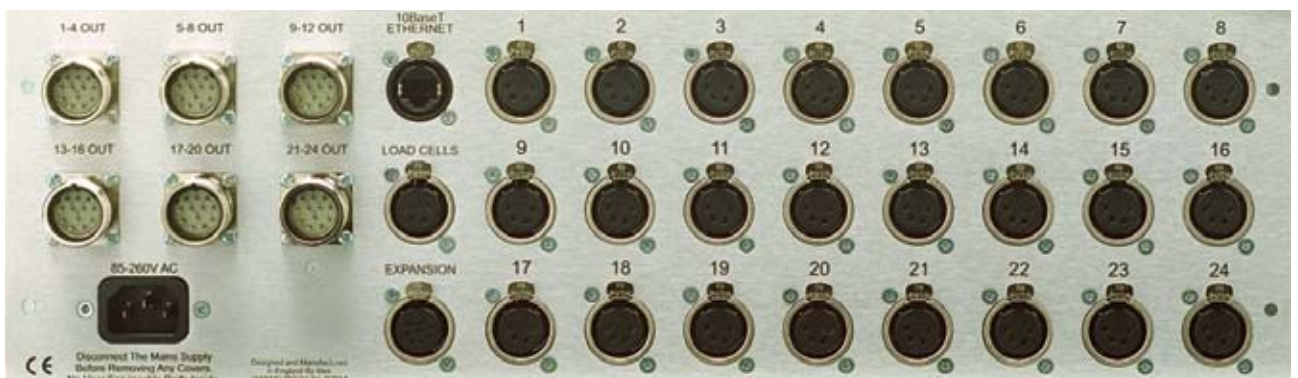
Weights may also be read on the LCD screen. An Ethernet port on the rear of the unit allows optional connection to a PC or Laptop for full screen display of the status of all channels and the linking of up to 10 controllers to provide up to 240 channels of control.

FEATURES:

The Programmable Hoist Controller Plus provides the following powerful features:

- Easy to use - no complex programming techniques to learn
- Programme sequences with manual, timed and positional links, for easy playback of complex moves
- Run sequences, multiple cues and manual moves, all at the same time
- Set up groups of hoists so that if one should fail the others automatically halt
- Connect digital load cells for automatic weight monitoring, with overload and underload protection functions
- Automatic movement with group halt in the event of an error
- Encoder positioning using single or dual phase encoders
- Time based positioning, this feature mode is a very useful backup in the event of encoder failure during a live show.
- Optional password protection to stop unauthorised users moving hoists or altering settings
- Ethernet port allowing up to 10 PHC plus controllers to be linked together providing up to 240 channels of control, plus full screen monitoring of all channels.
- Easy channel setup via motor libraries

Rear Face



The C-Force controller range provides the user with the answer to all control questions which may arise on events or permanent venues with advanced specification hoists. If you want to run a simple rig or perform an extensive show the following models are available:

FORCE CONTROL MULTIMASTER B/BL

Manual control system to BGV C1
19 inch rack mounted version, 4U high for 4, 6, and 8 channels
Master/Slave principle for reduced cost when using linked configurations
Operation using a black and white Mitsubishi Got touch screen panel with standard cable length of 3 metres
Definition of master or slave controller using software in the touch panel
Disconnection of groups when overloaded, in slack chain situation (when underloaded) or when reaching an emergency end limit switch
Bypass of the underload feature is possible for assembly operation
Note-Load monitoring is only available for 8 channel unit



FORCE CONTROL MULTIMASTER PC

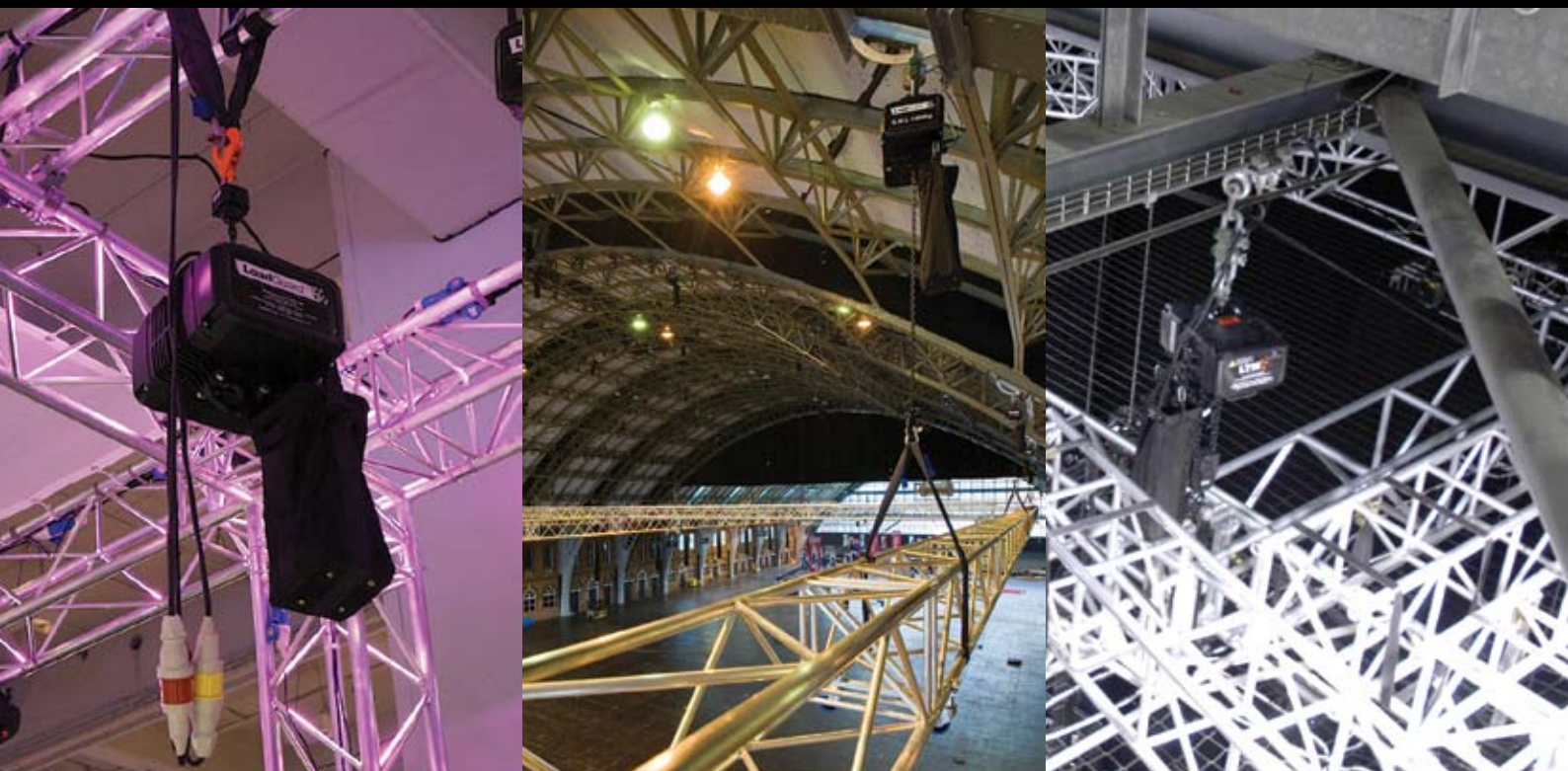
PLC based positioning system for fixed speed with load monitoring to BGV C1
19 inch rack mounted version, 4U high for 8 channels
Master/Slave principle for reduced cost when using linked configurations or with larger hoist systems
Operation using a black and white Mitsubishi Got touch screen panel-standard cable length of 3 metres
Definition of master or slave controller using software in the touch panel
Linkable master racks with connection for touch panel remote and operational computer via Ethernet
Disconnection of groups when overloaded, in slack chain situation or when reaching an emergency end limit switch
Bypass of the underload feature is possible for assembly operation
Easy handling of the user software (Windows 2000, XP) for comfortable installation of fully automated shows using a cue-system
Compact operator panel with 15 inch touch panel PC and an optional joystick
Exact object positioning of hoists with integrated encoder system (Incremental or absolute)
Load monitoring
Remote maintenance is available via ISDN (additional cost)



FORCE CONTROL MULTIMASTER VS

PLC based positioning system for variable speed with load monitoring to BGV C1
Rack mounted control units 8 channel mounted into a flight case or cabinet
Master/ Slave principle for reduced cost when using linked configurations
Linkable master units with connection for touch panel remote and operational computer via Ethernet
Master/ Slave definition over adjustment pathway at the rack
Operating panel with 15 inch touch panel PC with standard cable length of 3 metres
Easy handling of the user software (Windows 2000, XP) for comfortable installation of fully automated shows using a cue system
Vector regulated frequency inverter integrated in the controller for ease of maintenance
Exact object positioning of hoists with integrated encoding system (incremental or absolute)
Point and group loads at the user terminal and the PC
Variable speed, frequency range 0.5 – 100 Hz
Remote maintenance is available via ISDN (additional cost)





HOISTS / CONTROL / SUPPORT - ALL IN ONE PLACE



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 ARGYLE INDUSTRIAL ESTATE,
 BIRKENHEAD.
 WIRRAL, UK.
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