

INSTALLATION:

The track is made up with lengths of 100mm x 100mm x 6mm aluminium "T" section bolted together using threaded mild steel joining plates and M6 bolts backed up with Nylock nuts. It is suspended from the supporting structure with wire rope strops and 0.5t bow shackles at 1 meter intervals.

Head and tail blocks are fitted to the ends of the track. They form hard endstops to limit the travel of the carrier and accommodate the pulleys for traverse rope, lift line and return line.

This type of system can be installed on a truss or flying bar, direct to the grid or other suitable load bearing structure. Bars or trusses rigged at floor level are flown out to dead height and securely tied off. In the case of counterweighted theatre flying bars the counterweight cradle is also fastened down.

LIFT SYSTEM:

The lift system consists of a 3mm, 6x19 FC wire rope. It runs through the system in a loop via a pulley mounted at the top of a gin block both ends being terminated with hard eyes that connect to each side of a double pick up (hip) harness. One end of the gin block pulling rope is anchored to a secure fixing point in the stage or weights equivalent to the anticipated maximum load. The other end is attached to a return line enabling the harness connection points to be lowered in with only a minimal load on them i.e. sandbag. The system incorporates a 2:1 mechanical advantage to the operator. If additional assistance is required to achieve a smooth or faster lift, counterweighting can be added to the gin block assembly.

TRAVERSE SYSTEM:

The traverse rope is used to move the carrier along the track. It forms a continuous loop attached at both ends of the carrier and runs the length of the track via a floorblock pulley anchored to stageweights or secure fixing point in the floor.

TERMINATIONS:

Terminations - eyes - are formed in stranded ropes using standard splicing techniques. Kernmantle ropes are finished with a figure eight knot. Terminations to wire rope are made by crimping a ferrule with a hydraulic bench press or on-site, using the Nicopress system.

TESTING:

All systems are proof loaded to a minimum of 1.5 times the anticipated maximum load, prior to first use by the performer.

COMPONENT	TYPE/SIZE	M.B.L.	S.W.L.	W.L.L.	SOURCE
Pulling rope	20mm / 16 plait polyester	6000 Kgs.			Flints
Traverse rope & return line	10mm low stretch kernmantle	2500 Kgs.			Flints/Liros
Gin block	Standard		250 Kgs.		KAFX
Wire rope	3mm 6 x 19 FC galvanised	500 Kgs.			Ormiston
Wire rope	3mm 7 x 19 IWRC black	540 Kgs.			Flints
Track - standard aluminium "T"	100mm x 100mm x 6mm		500 Kgs.		KAFX
Carrier	Bridle-less, all lengths		250 Kgs.		KAFX
Head & Tail blocks	Bridle-less		250 Kgs.		KAFX
Pulleys	75mm sheave	3720 Kgs.			S.A.S.
Floor block	Petzl Tandem	2446 Kgs.			Petzl
Wire rope strops	4mm galvanised wire rope	890 Kgs.			KAFX/Ormiston
Shackles	Bow			0.5t (Tonne)	Crosby
Shackles	Bow			1.0t (Tonne)	Crosby
Carabiner	Steel oval screwgate	22 kN.			Lyon
Carabiner	Alloy screwgate	23 kN.			Wild Country
Swivel	Petzl P58S	23 kN.			Petzl
Swivel	Katimex	22.2 kN.			Katimex
Swivel	Katimex	1021 Kgs.			Katimex
Rope link	Pear pattern Maillon Rapide			880 Kgs.	Lyon
Harness connector	Oval pattern Maillon Rapide			160 Kgs.	Lyon
Roundsling	2 tonne / 2 meter black		2.0 tonne		Flints

Our own destructive testing reports show that in practice the actual strength of components often far exceeds the quoted figures. Figures quoted are direct from manufacturers and suppliers, therefore they appear in various formats: Calculations are best based on the minimum breaking load (M.B.L.) as different manufacturers can use various safety factors - ranging between 2.4:1 and 12:1 - to determine the safe working loads (S.W.L.) of their products.

Pounds (Lbs.)	1lb / 16 ounces ~ 0.454 Kg. / 454 grams	M.B.L.	Minimum breaking load
Kilograms (Kgs.)	1Kg ~ 2.204 lbs.	W.L.L.	Working load limit
Kilonewton (kN)	1kN ~ 102 Kgs. force	S.W.L.	Safe working load
U.S. (short) Ton	2000 lbs. ~ 907 Kgs.		
U.K. Ton	2240 lbs ~ 1016 Kgs.		
Metric Tonne	2204lbs. ~ 1000 Kgs.		

telephone +44 (0)20 8723 8552 +44 (0)7958 285608	address 8 Greenford Avenue, Hanwell, London, W7 3QP, United Kingdom.	e-mail/web mail@afxuk.com www.afxuk.com
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