

LIBERA FL105



The top of the LIBERA range. It is ideal for heavy duty use, with High Load carrying capacity and wide spans. LIBERA 105 is mainly for outdoor use. It is the most suitable system for building roofing and large structures. It can be used to build a span of up to 30 metres in length with a large carrying capacity.

Upper chords A
Extruded tube Ø 60 x 5 mm
EN AW – 6082 T6

Lower chords A
Extruded tube Ø 50 x 5 mm
EN AW – 6082 T6

Diagonals B
Extruded tube Ø 50 x 4 mm
EN AW – 6082 T6

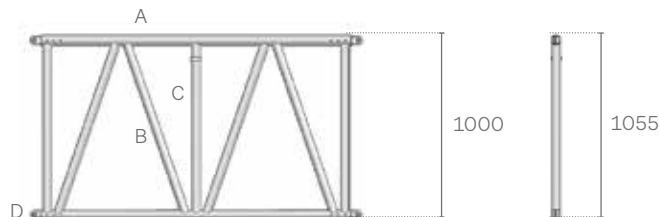
Braces C
Extruded tube Ø 50 x 4 mm
EN AW – 6082 T6

Ends D
forks connector
EN AW – 6082 T6

Connection system
KHLP: Cylindrical pin + safety R-clip
KHLM+KHLF

Truss

code	H cm	L cm
FL105045V	flat section 105	45
FL105086V	flat section 105	86
FL105136V	flat section 105	136
FL105186V	flat section 105	186



LIBERA system FL105

45 to 186 cm flat trusses – FL105

Available in standard versions

Ends with aluminium forks

Made of EN AW-6082 T6 aluminium with 60 x 5 mm upper tube, 50 x 4 mm lower tube and 50 x 4 mm diagonal

Universal four-way or male/female pass through connection

Cantilever load table



SPAN	Unif. distributed load			Centre point load		
	Point load	Full load	Central deflection	Point load	Full load	Central deflection
m	kg/m	kg	mm	kg	kg	mm
1.0	1270	1270	0	1270	1270	0
2.0	627	1254	0	1129	1129	1
3.0	410	1229	1	859	859	3
4.0	273	1091	3	630	630	5
5.0	195	975	5	490	490	7
5.5	159	875	7	438	438	9
6.0	131	787	8	393	393	10



Load table






















SPAN	Unif. distributed load			Centre point load			Third point load			Quarter point load			Fifth point load		
	Point load	Full load	Central deflection	Point load	Full load	Central deflection	Point load	Full load	Central deflection	Point load	Full load	Central deflection	Point load	Full load	Central deflection
	kg/m	kg	mm	kg	kg	mm	kg	kg	mm	kg	kg	mm	kg	kg	mm
5	499	2493	1	2491	2491	2	1246	2493	2	831	2493	2	623	2493	2
6	413	2477	2	2277	2277	3	1238	2477	3	826	2477	3	619	2477	3
7	351	2460	4	1996	1996	5	1230	2460	5	820	2460	5	615	2460	4
8	306	2444	6	1731	1731	6	1187	2373	7	815	2444	7	611	2444	7
9	270	2428	8	1524	1524	8	1114	2229	10	762	2285	9	607	2428	10
10	241	2412	11	1356	1356	10	1017	2034	12	678	2034	12	656	2260	12
11	218	2396	15	1217	1217	12	913	1826	15	609	1826	14	507	2029	15
12	183	2201	18	1101	1101	14	825	1651	18	550	1651	17	459	1834	18
13	154	201	21	1000	1000	17	750	1501	21	500	1501	20	417	1667	21
14	131	1827	24	914	914	20	685	1370	25	457	1370	23	381	1523	24
15	112	1674	28	837	837	23	628	1256	28	419	1256	26	349	1395	28
16	96	1538	32	769	769	26	577	1154	32	385	1154	30	321	1282	32
17	83	1417	36	708	708	30	531	1063	36	354	1063	34	295	1181	36
18	73	1307	40	653	653	34	490	980	41	327	980	38	272	1089	40
19	64	1207	45	603	603	38	453	905	45	302	905	43	251	1006	45
20	56	1115	50	558	558	42	418	836	51	279	836	48	232	929	50
21	49	1031	55	515	515	47	387	773	56	258	773	53	215	859	55
22	43	953	60	476	476	52	357	714	61	238	714	58	198	794	61
23	38	880	66	440	440	57	330	660	67	220	660	64	183	733	67
24	34	812	72	406	406	63	304	609	73	203	609	70	169	676	73
25	30	748	79	374	374	69	280	561	80	187	561	76	156	623	79
26	26	687	85	344	344	75	258	516	86	172	516	83	143	573	86
27	23	630	92	315	315	82	236	473	93	158	473	90	131	525	93
28	21	576	100	288	288	89	216	432	101	144	432	97	120	480	100
29	18	525	107	262	262	96	197	394	108	131	394	105	109	437	108
30	16	476	115	238	238	104	178	357	116	119	357	112	99	397	116

These load capacity values are only valid if the trusses are connected together every 2 metres (L₀)
 The load capacity values are only valid for a single line.

LIBERA FL105 System

LIBERA is an open structural system. The distinguishing feature of the system is that it uses standard modular elements connected together in ways that allow varied design and geometry of the finished structure. These two pages show connections and accessories that are helpful in the assembly or set up of your LIBERA FL105 system. The wide range of accessories for LIBERA System include bar hooks, spacers for the construction of arched geometries, complimentary elements for sleeve-blocks and transport trolley systems for flat trusses.

Connections

					
KHLB M20 screw bolt + spring washer	KHLD M20 screw nut + spring washer	KHLF Female fork connector complete	KHLG M20 Lifting Eye	KHLM Male fork connector complete	KHLP Cylindrical pin + 3 mm safety R-clip
					
KHL180A 180° double fork aluminum connector	KHL180S 180° double fork steel connector	KHL90LA 90° double fork alum. connector, left	KHL90LS 90° double fork steel connector, left	KHL90RA 90° double fork alum. connector, right	KHL90RS 90° double fork steel connector, right
					
KHL180AL149R Alusfera 76 spacer A	FL105CS02 2-way fork connection system	FL105CS03 3-way fork connection system	FL105CS04 4-way fork connection system	FL105CS04C 4-way fork conn. system rounded end	FL105CS04L 4-way fork conn. system w/foot
					
FL105CS04Z1 4-way cross special connection	FL105CS04R 4-way fork conn. system w/foot and vertical fork	TZHL01 FL assembly kit			

Accessories

					
C052D Bar hook for 52 cm. truss	C066 Bar hook for 61 cm. truss	FL105059HS HL 105 cm. gate cm 59 truss - hoist support	FL105047HSV HL 105 cm. gate cm 47 truss - hoist support	FL105MSZ1 Hoist support	FLRS52E-L Inclination system for MT52 tower/Libera 105 - Left
					
FLRS52E-R Inclination system for MT52 tower/ Libera 105 - Right	FLRS40E-L Inclination system for MT40 tower/ Libera 105 - Left	FLRS40E-R Inclination system for MT40 tower/ Libera 105 - Right	FL105ST FL105 transport trolley system for 20 pieces	FL105MS Hoist support	
					
RA / Reinforcement arm RA050 – working length 73 cm RA100 – working length 123 cm RA200 – working length 223 cm RA300 – working length 323 cm	RAF / Reinforced tube w/forks RAF047 – working length 47 cm RAF086 – working length 86 cm RAF100 – working length 100 cm RAF186 – working length 186 cm RAF200 – working length 200 cm	RAH / Diagonal brace w/hooks RAH014M2P – working length 14.2 cm RAH100M3P – working length 100 cm RAH141M4 – working length 141 cm RAH223M6 – working length 223 cm RAH282M8 – working length 282 cm			
					
RAL / 4 mm Aluminium pipe RAL047 – length 47 cm RAL086 – length 86 cm RAL100 – length 100 cm RAL186 – length 186 cm RAL200 – length 200 cm RAL400 – length 400 cm	RAT / Aluminium pipe w/caps RAT050 – working length 50 cm RAT100 – working length 100 cm RAT150 – working length 150 cm RAT200 – working length 200 cm RAT250 – working length 250 cm RAT300 – working length 300 cm				

Frames



- 1 / Connection detail RAH FL105
- 2 / FL105 Connection
- 3 / FL105 Module